A STUDY ON

KUDAL KIRUMI- MASARAI PUZHU

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DEPARTMENT OF KUZHANTHAI MARUTHUVAM

GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI – 627 002.

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "**A STUDY ON KUDAL KIRUMI - MASARAI PUZHU"** is a bonafide work done by **Dr.Y.MARIA THERESA, GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI** in partial fulfillment of the university rules and regulation for award for **M.D(SIDDHA), BRANCH-IV KUZHANTHAI MARUTHUVAM** under my guidance and supervision during the academic year **2013-2016 OCTOBER.**

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled. "**A STUDY ON KUDAL KIRUMI - MASARAI PUZHU**" is a bonafide and genuine research work carried out by me under the guidance of **Prof**.**DR.D.K.SOUNDARARAJAN, M.D(S).,** Head Of The Department, Post Graduate Department of **Kuzhanthai Maruthuvam,** Government Siddha Medical College, Palayamkottai and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

Date :

Place :Palayamkottai

Signature of the Candidate

DR.Y.MARIA THERESA

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INTRODUCTION

The siddha system of medicine is considered as one of the traditional medicine formulated by siddhars. It's a medical science through which the body as well as the soul is treated.

"**Nehaehb Neha Kjy ehb mJ j z¡fFk**
tha ehb thaggr nray"

The siddha system is based on the Tridosha theory and Pancha bootha theory in assessing and treating the diseases. Prevention and cure are the basic aims of all system of medinice whereas the siddha system has in addition the transcendental motivation of immortality of the body.

There are many branches in the siddha system. Among this Balavagadam is considered for the children. It deals with the childhood diseases and their treatment. Mainly herbs are issued for treating the childhood diseases.

The main of siddha system is to prevent the diseases by proper diet and relexation of mind.

In Balavagadam the diseases are classified into 2 types.

i) Agakarana Noigal

ii) Purakarana Noigal

The disease **kudal kirumi -Masarai puzhu** is considered as a preventable disease It sometimes remains asymptomatic and is not noticed by the parents, which may lead to complications. Many children are affected by kudal kirumi disease mainly due to poor hygiene.

As a step towards the healthy children against worms author had selected the topic **kudal kirumi- Masarai puzhu**. It's compared with the modern medicine and its prognosis with the trail medicine "**Nayuruvi Nei**"

There are several preparations for- treating the **kudal kirumi - Masarai Puzhu** disease. Due to the pure herbal form the author had chosen the medicine **"Nayuruvi Nei"** as the trail drug. for treating the kudal **kirumi - Masarai Puzhu"**

AIM AND OBJECTIVES

1. The principle aim of the study of **Kudal kirumi- Masarai Puzhu** with clinical study is to collect and review the ideas of the ancient siddhars about this disease. To reduce the recurrence of symptoms, to create awareness among the patients and their parents about the disease and its complications and educate them to improve their personal hygiene, sanitation and dietary habits.
2. Collection and detailed study of various literatures dealing with the aetiology, classification, signs and symptoms, prognosis, complications, diet and treatment of Masarai Puzhu (Giardiasis)
3. To have an idea about the incidence of the disease with reference to the age, sex, occupational, orientation, socio economic status etc.
4. To make a comparative study on Siddha system and Modern aspect of this disease.
5. To have clinical trail with specific medicine of **Nayurvi Nei**. It is given to both Outpatient and Inpatient ward in Government Siddha Medical College, Palayamkottai.
6. To study the Biochemical, Pharmarological actions and Antimicrobial actions of the trail drug.

REVIEW OF LITERATURE

SIDDHA ASPECTS

F l y f⁄Uk⁄ - k r i u GO

ngah fhu z k

f⁄Uk› c l kg⁄wF s fh z ggLk mNd f t⁄j kh d GO myyJ G+r r⁄f s.

Worms or Parasites of various shapes which germinate or grow in a living organism in the different parts of the human body. The different kinds that have their origin in feces, phlegm, blood etc..

F l wf⁄Uk⁄ : k d⁄j T l kg⁄y F l Y s rhj hu z kha t r⁄f Fk f⁄Uk⁄f s

F l wG+r r⁄	-	Intestinal worm
GO	-	f⁄Uk› Worm
f⁄Uk⁄	-	GO vermicle

M jhuk- T.V *rhkgr⁄ t kg⁄s i s m fuhj⁄ (II,V)*

g f f v z : 510› 530› 1451

ka⁄h⁄ i oa⁄d E d⁄ Ngh d w xU t⁄j GO t⁄d Nf l hy tUk Neha M j yhy , jwF k rw⁄ v dg ngah te j J.

“ka⁄h⁄ i oa⁄d E d⁄ Ngh d W GO f f S wW
kf Tej⁄ g⁄ i r jy jha F o t⁄ Nrhh eJ
ga⁄h th Lk e⁄y i k na d j j i y naohJ
gUQ r j ehkyq f s⁄i l fo⁄eJ
ca⁄h %yk Neha Ngh d W t⁄h⁄eJ j s s⁄
c l d ty⁄j J f F j j⁄ J}J s q fha eh Nghy
Jah nghr⁄eJ fharrnyhL t f f k f f f y
nj hleJ th⁄d k rw⁄ Neha Fw⁄ahnk d Nd

M jhuk : *k j i y Neha n j F j⁄ - I*

g f f v z - 376

,ay

Flypy kpFej msttpy fpUkpfs czlhtjhy tapwWtyp> ,rpT> kyfflL myyJ foprry> rUkjjpy mhpgG> thejp Ruk cly fhqif Nghdwitfis czlhfFk Neha

Mjhuk : *gpsis gpzpkUjJtk gffk vz :89*

fpUkp Nuhfjjpd tiffis gyNtW E}wfspy fo fhZkhW FwpffgglLssJ.mitfSs rpytiffs fpNo Fwpggplgg lLssd

Flwfpukpapd tiffs

1. ehfgG+rrp
2. ngUkG+ehfk
3. ehgghkGf fpUkp
4. ney Kisf fpUkp
5. rddpehff pUkp
6. mZ ffpUkp
7. ntz fpUkp
8. nrqfpUkp
9. mejh kyffpUkp
10. tllf fpUkp
11. #lrk fpUkp
12. Njhdwhf fpUkp
13. ehffpUkp
14. kQrs fpUkp
15. fUqfpUkp
16. thaffpUkp
17. tapwW fpUkp
18. Fly fpUkp
19. <uy fpUkp
20. fhpgG+rrp
21. jpkph G+rrp
22. fiz f fpUkp

23. glilgG+rrp
24. E}y G+rrp
25. rhlilgGO
26. jhdgGO
27. kriugGO

Mjhuk : *gpsis gpzpkUjJtk*

gffvz :88>89

Fly fpUkpfspd tiffis gwwp nttNtW E}yfspy fhzNghk.

I. **ghythflk**

1. kriuGO
2. fhpg G+rrp
3. ehfFg G+rrp

II gpsisggpzpkUjJt E}ypy 27 tif Flwfpukpfis gwwp tpsffp csJ.mitfs

1. 19 tif fpUkpfs
2. 5 tif G+rrpfs
3. 3 tif GOffs

1.**G+rrpfspd tiffs**

1. ehfg G+rrp
2. fhpg G+rrp
3. jpkphg G+rrp
4. glilg G+rrp
5. E}y G+rrp

2.**fpUkpfspd tiffs**

1. eh ghkG fpUkp
2. ney Kisf fpUkp
3. rddesf fpUkp
4. mZf fpUkp
5. ntz fpUkp
6. nrqfpUkp
7. mejh kyf fpUkp

8. t l l f f℘Uk℘
9. # l r k f f℘Uk℘
10. Njhdwhf f℘Uk℘
11. ehf f℘Uk℘
12. kQrs f℘Uk℘
13. fUqf℘Uk℘
14. thaf f℘Uk℘
15. ta℘wWf f℘Uk℘
16. F l y f℘Uk℘
17. <uy f℘Uk℘
18. f i z f f℘Uk℘
19. ngUk G+ ehfk

3. **GOffs℘d tiffs**

1. rhl i lgGO
2. jhdgGO
3. kriugGO

III kjiy Neha njhFj℘ E}y℘dgb 4 tif f℘Uk℘fis gww℘ t℘sff℘ cssJ› mitfs

1. thjff℘Uk℘
2. nujj f℘Uk℘
3. g℘jj f℘Uk℘
4. fg f℘Uk℘

1. thjff℘Uk℘a℘d Fzk:

“kyjj℘d℘y f℘Uk℘ahNy kdkjhy f℘uf z℘A z lhk
g℘yjJld mh℘aW jhDk g℘uz lNjhh %yNehafs
ryjJld Fly thAffs rf℘ahj Ntjid A z lhk
cyhjj℘Lk thjk kw℘ cWgngyyhk cisrryjhNd”

nghUs:

thjf℘Uk℘ahy f℘uf z℘› %yNeha› FlythA› cisrry Kjy℘a Fw℘F z qfs c z lhFk.

2.nujj fPUkPaPd F z k

“fh Z Nk nujj fPUkP f z bby thjk Nkfk
G+ Z Nk Nkf n t l i l G i fejPLk j Z gG Cuy
eh Z Nk nrhwP rPuqF ehllkha fPuej # i y
t Z Nk gUffs F \ lk t rwG Nehafuggd fhN z”

nghUs:

nujj fPUkPahy thjk› Nkfk› Nkf t l i l›nrhwP› rPuqF› fPuejP› # i y› F l l k› fugghd , i t f s c z lhFk.

3.gPjj fPUkPaPd F z k

“gPjjjjPy fPUkP j d i d NgrPby m d d k Nt z lhk
xjjNjhh taPwwPy NehT c l nyqFk tPshr i r fhlLk
nkjjNt j shr i r rhjjP NktPa mjPrhuk jhd
fjjNt fharrY z lhk f z j i y fPwffkhNk”

nghUs:

gPjj fPUkPaPdhy grPaPd i k› taPwwPy NehT› mjPrhuk› fharry Kjy Pad c z lhFk.

4.fg fPUkPaPd F z k

“f z bLk fgf fPUkP fbdkha fhajjhNy
nfh z bLk c lyPy nujjk nfhjPjJ J}hPjJ gwwP
k z bLk fharry <i s kyk rPffP fgj i jf fhlLk
tP z bLk raNeha NrheJ tPswPLk c lkG jhNd”

nghUs:

fgffPUkPahy c lyPy ,ujjk nfhjPjJ fharry› <i s› kyfflL› raNeha Kjy Pad c z lhFk.

IV [tulrhkpjhjk E}ypd fo 20 tif fpUkpfis 4 gphpTfshf tpsffglLssJ.mitfs

1. rhujjpd Nky ,Uggd
2. fgjjpy ,Uggd
3. ,ujjjjpy ,Uggd
4. kyjjpy ,Uggd

1.rhujjpd Nky ,Uggd

Ngd, riygNgd vd 2 tifggLk. Ngd mOffpy gpweJ cNuhkqfspd eLNt trpfFk. riygNgdfs mOffpy gpweJ mOfFjJ zpfspy trpfFk. ,it fbggjpdhy jpdT ,jbgG rpwpa nfhgGsqfs Kjypad cz lhFk.

2.fgjjpy ,Uggd

fgjjpy Mkha]jhdjjpy gpweJ tpUjjpahfp csrQrhpggJ ngUk G+ehff fpUkp, neyKisf fpUkp, rdd esf fpUkp, mZffpUkp, ntz fpUkp, nrqfpUkp vd VO tifggLk. ,itj jdpjjdpahfTk, llqllkhfTk› fhypyyhkYk, tllkhf Rwwpa E}iygNghYk ghhitfF Gygglhj mZgNghYk jUgigg G+ thridiag ngwW Flypy rQrhpffpdwd.

3.,ujjjjpy ,Uggd

cjpujjpy gpweJ tpUjjpahfp ,ujj ehsqfspy rQrhpggJ mZffpUkp,tllffpUkp, kpUf#\kffpUkp, fhypyyhffpUkp, nrqfpUkp, Njhwwhffpukp vd MW tifggLk.

4.kyjjpy ,Uggd

gfFthra]jhdjjpy gpweJ tsheJ kyhrajjpy rQrhpggit fNfUfk, kNfUfk, rTurk, rY}dk ,Nyfk vd 5 tifggLk. NkYk ,twWld glilgG+rrp› tllgG+rrp Nghdw G+rrpfSk Flypy trpffpdwd vd [tulrhkphj E}y $WfpwJ.

V) T.V rhkgrpt gps i s E}ypd fo F l y fpUkpapd t i f f s

m. G+r rp :

gyNtW t i fahd G+r rpfs

1. ehfgG+r rp - Round Worm (Ascariasis)
2. fhpgG+r rp - Small Parasites or microbes
3. jpkphgG+r rp - Small Parasites in the Intestine (Oxyuriasis)
4. E}ygG+r rp - Thread Worm (Enterobius Vermicularis)

M. fpUkp :

gyNtW t i fahd fpUkpfs

1. ehgghkG	-	An Unknown Kind
2. ney K i s f fpUkp	-	HookWorm (Ankylostoma Duodenale)
3. r d d es f fpUkp	-	Filaria
4. m Z f fpUkp	-	Microbe
5. n t z fpUkp	-	White Worm
6. n r q fpUkp	-	Red Worm
mejh k y f fpUkp	-	Worms of the rectum (Oxyuris Vermicularis)
7. t l l f fpUkp	-	Round Worm(Ascariasis)
8. # l r k f fpUkp	-	Microzoan
9. Njhdwhf fpUkp	-	Invisible Worm
10. eh f fpUkp	-	Water Worm
11. kQ r s fpUkp	-	Yellow Coloured Worm
12. f Uq fpUkp	-	Black Coloured Worm
13. th a f fpUkp	-	Worms found in the teeth, saliva etc
14. t apwWf fpUkp	-	Germs in the stomach
15. F l y fpUkp	-	Intestinal worms such as tape worm Round worm
16. <uy fpUkp	-	Liver Flukes (facioli Hepativa)
17. f i z f fpUkp	-	Germs responsible for kanam
18. ngUk G+ ehfk	-	Round Worm

,) GO

gyNtW t i fahd GOffs

1. kr iugGO (nrwp GO) - A kind of worm in the intestine
   Giardiasis
2. jl i lgGO (or) ehlhgGO - Tape Worm
   Taenia saginata - beef tape worm(khlb iwrrp ehlhgGO)
   Taenia Soliumm - Pork tape worm (gdwp , iwrrp ehlhgGO)

<) Worms of Intestine

List of worm present in intestine

1.eh ghkG fpUkp - An unknown kind
2.ney K i s f fpUkp - Hook worm (Ankylostoma duodenale)
3.r d d es f fpUkp - Filaria
4.m Z f fpUkp - Microbe
5.n t z fpUkp - White worm
6. t l l f fpUkp - Round Worm(Ascaris)
7.ngUkG+ehf f fpUkp - Round Worm
8.# l r k f fpUkp - Microzoan
9.Njhdwhf fpUkp - Invisible worm

c. Germs of blood

The different types of germs in the blood are

1. m Z f fpUkp - Microbe
2. t l l f fpUkp - Round worm (Ascariasis)
3. kpf # l r k f fpUkp - Microzoan
4. fhypyyhf fpUkp - Worms without legs for locomotion
5. Njhdwhf fpUkp - Invisible worm
6. n r q fpUkp - Red worm

fpUkpfF nghJfF zk (kji y Neha njhFjp-1 y gff v z 296y

F zkhd ,sk Ngjp jdid thlb

nfhwwtNd %ykjpy mdy jhd nfhzL

kzpjpuzL csNkfj JwffkhFk

jp zkhd nujjkJ J}\pjJ twwp

jtwhky Ngjpajpny gOjJ

jp zkhd NgjpaJ ,wqFk NghJ

Nuhfp nkjj fpUkpaJ mjdpy $lb

fdkhd MfhukJ FiweJ thejp

fbdKld gplhp ,LgGiseJ fhaeJ

kdkhd Njfkjpy twlir kejk

ikejNd NkhfkJ FiwjJ fhlLk

khdpljjpy khejUfF fpUkp NehNa.

FwpF zqfs:

NgjpAld fpUkp fhzy› ,LgG cisjy›Njfjjpy twlrp Vwgly› kej Neha Nghdw FwpF zqfs czlhFk.

fpUkpfF nghJF zk (Nehapyyh newp)

Nehapyyh newpapy $wggll gb fpUkpfshy fo fhZk Fwwqfs czlhfpwJ vdW $wgglLssJ.

fpUkpahy tejNjhlk ngUf Tz L

Nflfyjd gphpTjidf fpukkhf

nrUkptUk gTjuqfs fpUkpahNy

nghUkptUk thantyhk fpUkpahNy

jpNufkjpy nrhhpfFllk fpUkpahNy

JUkptUk RNuh zpjq fpUkpahNy

#lrKld fphpifgghy njhopy nratNu

-FU ehb. nra 93

Nkw$wpa nraAshy gy NehafSfFk fpUkpfNs fhuz nkdwwpayhk.

fpUkpapdhy thaT› GOffb› gTjjpuk› nrhhp› Fllk Nghdw Nehafs czlhFk.

NkYk Flyfspy jqFk fpUkp midjJk jikfs klLNk mspggJ myyhky edikfs nraAk fpUkpfSk cssjhf Nehapyyh newp E}ypy $wgglLssJ.

czTpd gphpT $Wkpljjpy› fhwgqF czT fpUkpfSfF vdW nrhyyggLLssJ. jik nraAk fpUkpfSfF czTspjJ tshff NtzLnkdW vtUk $whh. Mifahy mqFf $wggLk fpUkpfs A+fpffggLfpwJ. msTfF kpQrpdhy mkphjKk tp\khFk› Mjypd mffpUkpfs mjpfggbDk myyJ ,lk tplL ,lk nryypDk tp\khff$Lk. vdNt xNu fpUkp edikAk gafff$Lk. fpUkpahy klLkpdwp mjd tp\ euhYk rhk Nehafs czlhf $Lk.

krwptif

1. Ez krwp
2. ntz krwp
3. kQrs krwp
4. fUkrhp
5. nfhOfy krwp

Mjhuk: kjiy Neha njhFjp-I

gffkvz-377

Nehaffhd fhuzqfs (nghJ)

- J}aikaww kyk fyej kz zpy tpisahLtjhYk
- kziz jpdgjhYk›<nkhajjgzlqfs› J}aikaww czT› fhafwpfs› goqfs Mfpatwiw czgjhYk›
- nflL Nghd japh› gioa rhjk mOfpa fhafwpfs› goqfs ,twiw czgjhYk gdwp ,iwrrp› khlL ,iwrrpahYk› rpy kd tiffis czgjhYk›

- eha› G+id Nghdw tlL tshgG gpuhzpfsplk neUffkhf goF tjhYk Fly fpUkpfs czlhfpdwd.
- NkYk rpy G+rrpfs Mrd thapy KlilapLfpdwd Foeijahd J Mrd gFjpapy mhpfFk NghJ ifapid itjJ Ruz LfpwJ. gpwF mNj tpuypid thapy itjJ #gGtjhy efffz zpYss KlilahdJ Foeijapd czTg ghijapy nrdW guTfpwJ.

Neha tUk czikAk mjd vz zKk:

“jhapD}z tpidahy gUF euhy
j Zntg Gg nghUs jqfhy cah Fwwjjhy
Napa Dejp tshfhyfs Koqfpj Njqfp
nropjJ tUthk krwp NehAUffs Njhdwp
ehapDleJ}rggha maeJ Nehafs
eadW tUk Ezkrwp kQrs ntzik
Ngapa DUjjqF fUkrwp nfhOfyhFk
ngUikAzh ,Wjp Neha kwypjhNd

Mjhuk: *FkgKdp ghy thflk gffvz:197*

fpUkp Nuhfqfspd nghJfFwpF zqfs fNo Fwpggp lggLfpwJ› mitahtd:

- njhgGis Rwwp typ
- tapW cgGrk
- J}ffjjpy jd gy fbjJf nfhssy.
- %ffpy Gz czlhjy.
- %ffpYk Mrd gFjpapYk mhpgG› thejp› Ruk› khhG Neha› Ritapdik› nrhpahik› foprry Mfpa FwpF zqfs fhZk.
- rpy Ntis nghpa ehfFgG+rrpfs czTfFoy topahf Nky Nehffp njhzilt iu nrdW thejp nraaKbahjthW Rthrf Foy ehrpjJthuqfs ,twwpy EioeJ miljJ FoeijfSfF kuzjij czlhfFk.

- ,ttpj kuzqfs ngUkghYk Foeij J}ffjjpy ,UfFk NghJ NeUk.
- Foeij czZfpdw Mfhujjpy csss rjJffis ,it jpdW tshtjhy FoeijfSfF tdik FiweJ ntSgG (ghzL) NehAk mjid njhlheJ Cjy NehAk tUk.
- Njhypy ntz Gsspfs VwglL Njhypd epwk khwy› jbgG› mhpgG› jpdT› nrhhp rpuqF Kjypad czlhFk.
- J}ffjjpy gwfisf fbfFk J}qFk NghJ fzfs KOikahf %b ,UffhJ.
- fzfspy mjpf gis NjhdWk. rpy Neuk czit tpUkgp czzhJ.

Mjhuk: *gpsis gpzpkUjJtk*
gffk vz -88›89

kriuGO Neha FwpFzk:

NrhUQ rjkyejz zh
Jyqf tplhk NyfopeJ
NrW kykNgh yghdjijr
Nrhjjy ntspapy tapwwpNdha
fhhpdpwk Nghy fjjhpffha
frqfy Nghyf fopeJ Fjjy
thUk tlKe jpfo %iyaha
kriuGOtpd FzkhNk

nghUs:

- Foeij NrhheJ fpljjy
- xU Ntis rjkhfTk› xU Ntis kykhfTk› xU Ntis euhfTk› xU Ntis fyejjhfTk fopjy
- frqfpd epwkha fopjy

Mjhuk: *Foeij kUjJtk ghythflk*
gff vz -610

NkYk› kriu GO Nehaıd tiffs xdwhd Ezkrw Nehaıd FwıF zkhtJ.

c z Tfs ghyeh Njqfı cggır kıFjıAwW
j Z TW kyKQrOk jffhsı tıiueh NghdWk
eı z KW nraifAwW eıdwıilaıilNa NghFk
m Z TWTejı neheJ mahjiy Gwqfhy euhk

eujha kytha jssı eıdwıU fzfs %Lk
rujha Nkdıthb jı zwıNa mOJ fhlLk
tukha gyfbfFk tıiueJ eh ghAk %ffıy
fukhk nulLssıy fodW E}z krwı NehNa

nghUs :

- cz Zk ghy› eh Mfıait taıwWsNsNa jqfı taıW cggırk cz lhjy.
- kykhdJ rjjJld jffhsıia fiujj eh NghdW ntsıNaWjy.
- taıwWtyı mahT› Gwqfhyfsıy tffk Mfıad cz lhFk.
- NkYk mstıwF mjıfkhf mbffb kyk foıggjhy Mrdtha ntsıj jsSk.
- cly thLk› tha XahJ mOjy› gy fbjjy %ffıy eh ghajy› Ruk Mfıa FwıF zqfs cz lhFk

2. nt zkrwıaıd FwıF zk

“f z KfKk clytıswı kıfTk NrhheJ
fLk tyıahKldOJ , ilaıilNa tılL
c z nghUshq fjjıhıffha gıirej eh Nghy
cah rjkyk NghYk nt z ikG+ z L
t z kyNa taıWfoıeJ kytha jhDk
tUjjKld Gwejssı tıheJ NghFk
g z ghL FiweJ kıf TjLyheJ
gUf KjK z T nfhss nt z krwı NehNa

nghUs:

- f z› K f k› c l y n t s‰w‰ k‰f T k NrhheJ fh z ggL k
- k‰f T k ty‰A l d t‰l L t‰l L mO k
- f j jh‰f f ha g‰i rej eh Nghy kyk fh z ggL k
- ta‰W k‰f T k fo‰eJ ky tha n t s‰j j s S k
- cjL cyheJ› c z T c z z hky ,U f F k.

3.kQ r s krw‰a‰d Fw‰F z k

“ta‰W G i l j J ty‰kQr‰f FUj‰ roha
tUQ r s‰Ak kQ r s e‰w eUk rhAk
Jah k‰F thk eh fo‰aj Jyq Fk g‰s i s
JL f fhf myw‰ k‰f j j i yAejhOk
cah ngUk gfo‰N t i s %yej s S k
cWg l q fhy t f fKw‰y‰U ehd F sNs
mahrr‰AWk Gyhy th i l f f f y t‰f f y
m Z f‰L f‰y kQ r n s Dk krw‰ahNk

nghUs:

- ta‰W G i l j J k‰f T k ty‰j J fh Z k.
- FUj‰ roha› kQ r s e‰w eWk fh z ggL k.
- k‰F ej JaU l d eh fo‰Ak.
- g‰s i s k‰f T k mO J j i y jhOk.
- %yk j s s‰ fh Z k› fhy‰y t f f k c z lhF k›mahrr‰ c z lhF k.
- Gyhy th i l› t‰f f y› thej‰ fh z ggL k.

4.f U krw‰a‰d Fw‰F z k:

“f Ukrw‰Aww k f T l Y thb
f z %f F Nky t‰ahj J i t j J s‰ fr‰eJ
cUf Uf‰ ta‰W F j j‰ ty‰j J i seJ
T+z RUq f‰A l y fw‰Nghy kyq fo‰eJ

gU%ykha tpheJ fUkGOffs
gwwpNa ro FUjp frpeJ ehwp
tUKW fy j Z ggpSgG Nfhio ghAk
tUejpauhw jh z bLfpy kSnkdNwd”

nghUs:

- kftpd cly thb f z› %ffpd Nky tpahjJ Jspaha frpAk
- tapW Fjjp typjJ cisAk. C z RUqFk.
- fwpNghy kyqfopAk. fUk GOffs ntspggLk
- ro› FUjp frpeJ ehWk. ,OgG› Nfhio ntspggLk.

5. nfhOfy krwpapd FwpF z k:

“nfhOfp tUk KlNghdw fhlrp naaJk
FlwNjhwWk nfhOfy E z GOT jhDk
tOtOjJfFly Fjjp FUjp rpejp
tUjjKW typNjhdwp kjiy jdid
KOgghf %rrplwp Kfqfdj J
KoffKld kyqfopeJ mywprrwp
gOgghf ntsp f z L %yejsSk
gwwpNa AsthqfhJodW fh Z k

“fh Z Nk fharry ntwpAggprqfs
fLjJ eh tpLk NghJ myWk gpsis
G Z tha gy G+lLk KWfY z lhk
Gz zhff Fly fh Z k nghypAk tdik
Njh Z Nk Aly kyKq fjpjJf fh Z k
njhFjpAwpy ,U%dW ehspw nfhyYk
Ng Z jyha clYapUeJbjJr rwpy
ngUikAW ehqnfhdwpy kwyp G+Fk”

nghUs:

- Flypid Fjjp FUjp rpejp typNjhdWk
- %rR tpl rpukk› Kfk fdjJ fh Z k› kyk rjjjJld ntspggLk

- %yk gOgG epwkha n t spjj s S k
- fharry› cggprqfs fh z ggLk. eh nryYk NghJ Foe i j mOk.
- gy ,WFk. Flypy Gz VwgLk. cly› kyk fjpjJ fhZ k. ,u z L› %dW ehspy nfhyYk.

Mjhuk: *kj i y Neha njhFjp-l*
gff v z 377-380

kr i ugGO tpd FwpF z k:

kyk fUfp epdW Fj thapw Fjjpf FKwp FUjp tpOk. kyjJld rjQ rpjwpffhZ k cjgig js S k. fotapWi seJ NehFk.

Mjhuk: *Mjkulrhkphjnkd Dk*
i t jjpa rhurqfpufk
gff v z :142

KfFww ,ay:-

thjk› gpjjk› fgk Mfpa %dWk caphjhJffs vdggLk. ,i t jddpiyapy khwpnraygLk Neujjpy clypy Neha epiy VwgLfpwJ.

Flwfpukp - kr iuGO Nehahd J gpjjk myyJ fgjjpd Mjpffjjpdhy VwgLfpdwJ. NkYk c z thjpnrayfshy c z lhfpwJ. vdNt ,eNehapy gpjjkhd J Kjypy Nfl i leJ gpd dh fgk Nfl i leJ mjNdhL thjj i j Nfl i larnraJ Nehapi d c z lhfFfpwJ.

‘cwwNjhh clypy $W
cWgGld tputpepdW
KwWNk Nehafs vyyhk
Kjyjdpy NjhdWk NghJ
GwWNk thj gpjj
rpNywgde j d dpy xd iwAk
gwwpNa NjhdWk vdW
gfhejdh Kdpth jhNk”

-mfjjpah FUehb

caph jhJffs

thjk thOkplk:-

mghdd› kyk› ,lfiy› cejpapd fo%yk› fhkfnfhb› Cd› ,LgG vYkG› Njhy› eukG $llk› fyfs› kaphffhyfs

thjk ,awifgzG:-

tspahdJ jd ,awif epiyapy CffKzlhffy› %rR tply› %rR thqfy› kdnkhop nkafSfFr nraiyj juy› kyk Kjypa gjpdhdF Ntfqfis ntspggLjjy› rhuk Kjypa VO clw jhJffSfFk xjj epforrpiaj juy lknghwpflL tdik nfhLjjy Mfpa nrayfis nraygLjjp clYfF Jiz Ghpfpwj.

thjk clypy nranjhopy

clyNehjy› Fjjy› kyk› rpWeh Kjypd jajy myyJ milgLjy cWgGj jshrrp› ehNtlif› ehggirapdik vrRitAk JthgghapUjjy if fhyfis ellTk› klffTk Kbahik kaph$rnrwpjy nfzilffhy› njhil Kjypad nehWqfpg NghtJ Nghyj Njhdwy› cly ,isjjy› Filrry Mfpad thjk clypynraAk njhopyfs

thjjjpd gphpTfs:-

1. gpuhzd:

FlwfpUkp Nehapy gpuhzd ,ayG

2. mghdd:

,J Rthjpllhdjjpy ,UeJ ntspgglL foNehffp kyryjij jsSk. Mrdthia RUfFk. mddrhujijr Nru Ntzba ,lqfspy Nrhggpffk

FlyfpUkp Nehapy kyfflL› fpUkp kyjjpy fyeJ ntsptuy fopryMfpad VwgLtjhy mghdd ,affjjpy ghjpgG VwgLk.

3. tpahdd:

,J Njhypy ,UeJ vOgjJ ,uzlhapuk ehb eukG ,ujj FohafspYk nrdW ,tTlypYss mirAk nghUs› mirahg nghUs vdDkpuzbypUeJ cWgGfis ellTk klffTQ nraJ ghprqfis

mwpAk. c z Z k c z tpd rhujij m t tplqfspy epuggpjJ c l i y f fhfFk

Flwfpukp Nehapy cly KOikAk jpdTk› typAk VwgLtjhy tpahdd ,affjjpy ghjpgG VwgLk.

4. cjhdd:

,J cjuhffpdpapy ,UeJ Njhdwp cz tpd rhujNjhL $bapUeJ mij mqfqNf epWjJk. mij ntspggLjjpAk fyffpAk tUjy nraAk

Flwfpukp Nehapy thaFklly› thejp VwgLjthy cjhdd ,affjjpy ghjpgG VwgLk.

5. rkhdd:

,J ehgpapypUeJ fhy tiufFk rkdha gutpg ghaeJ mWRitfisAk› jz zh mddk Mfpatwiwak rkggLjjp clypnyyyhk NrUkgb nraAk.

Flwfpukp Nehapy grpapdik VwgLtjhy rkhdd ,affjjpy ghjpgG VwgLk

6. ehfd:

Flwfpukp Nehapy ehfd ,ayG

7. $hkd:

,J kdjpypUeJ fpskgpf fz zpypUeJ ,ikiaf nfhlLtpfFk. nfhllhtp tplggz Zk. Flwfpukpapy Jhffkpdik VwgLk vdNt $hkd ,affjjpy ghjpgG VwgLk.

8. fpUfud:

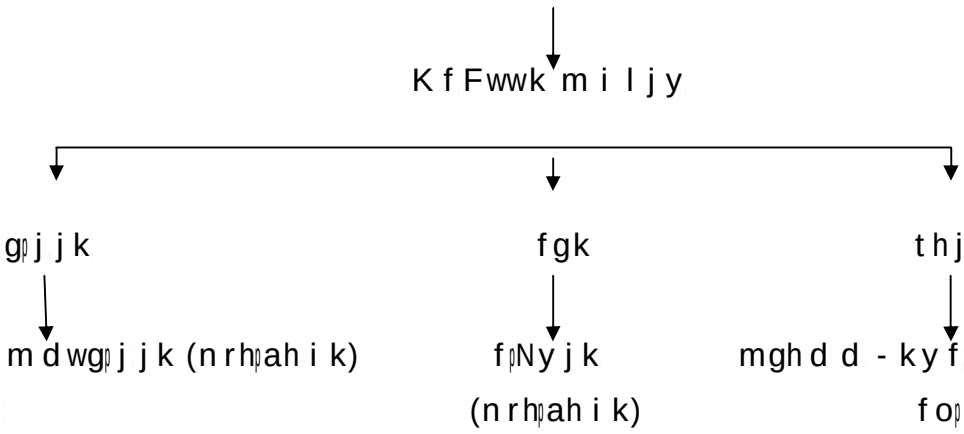
,J ehtpypUeJ fpskgp Ritapid mwpar nraAk.

Flwfpukp Nehapy grpapdik VwgLjtjhy fpUfud ,affjjpy ghjpgG VwgLk

9. Njtjjjd:

FlwfpUkp Nehapy Njtjjjd ,ayG.

czthjp nrayfspd Ngjk.



moy (gpjjk)

gpjjk thOkplk:

‘gphpejpLk gpjjk NguhQryjjpdpy” vdj jpU%yUk

Nghnkdd gpjjjJffpUggplNk Nfsha

Nguhd fzljjpd fojhFk-vd A+fp Kdptuk

moypd ,awifggzG:

moyhdJ jdJ ,awif epiyapdpdW nrhpggpjjy› ntkik› ghhit› grp eh› Ntlif› Rit. xsp epidgG› mwpT› tdik› nkdik vdgdtwiw czlhffp clwFjJiz GhpAk

moypd gphpTfs:

1. mdwgpjjk:

Flyfpukp Nehapy grpapdik› nrhpkhd NfhshW VwgLtjhy mdwgpjjk ghjpgG VwgLk

2. ,uQrf gpjjk:

Flwfpukpfs ntSgG Nehia VwgLjJtjhy ,uQrf gpjjk ghjpgG VwgLk.

3. rhjfg gpjjk:

Flwfpukp Nehapy clwNrhhT VwgLtjhy rhjfgpjjk ghjpgG VwgLk

4. MNyhrf gpjjk:

Flwfpukp Nehapy MNyhrf gpjjk ,ayG

5. gpuhrf gpjjk:

Flwfpukp Nehapy ntSjj epwggilfs› mhpgG› jbgGfs czlhtjy gpuhrf gpjjk ghjpgG VwgLk.

fgk ,awif gzG:

fgk jd ,awif epiyapy epiyjjy› neagG fyfspd mikggpd flLfs nghiwAilik mjhtJ grp› ehNtlif› Jauk fyffk› ntggk ,itfis nghWjJf nfhsSjy Mfpa ,itfs fgjjpd ,awif gzGfs

fgk gphpTfs:

1. mtykgfk:

Flwfpukp Nehapy mtykgfk ,ayG

2. fpNyjfk:

Flwfpukp Nehapy tapwwpy typ czlhFk mjdhy fpNyjfk ghjpgG milAk

3. Nghjfk:

Flwfpukp Nehapy Nghjfk ,ayG

4. jwgfk:

Flwfpukp Nehapy jwgfk ,ayG

5. rejpfk:

Flwfpukp Nehapy rejpfk ,ayG

VO cly jhJffs

1. rhuk:

Flyfpukp Nehapy clyNrhhT VwgLk. MfNt rhuk ghjpggilAk

2. nreeh:

Flyfpukp Nehapy cly epwk Fiwjy› twlrp VwgLk› nreeh ghjpggilAk.

3. Cz:

Flyfpukp Nehapy Cz ,ayG

4. nfhOgG

Flyfpukp Nehapy nfhOgG ,ayG

5. vdG:

Flyfpukp Nehapy vdG ,ayG

6. %is

Fly fpukp Nehapy %is ,ayG

7. Rffpyk / RNuhzpjk:

Fly fpukp Nehapy Rffpyk/ RNuhzpjk ,ayG

gpzpawpKiwik:

gpzpawpKiwik vdgJ cliyg gpzpjjyha Nehiaj njhpeJ nfhs Sfpw xOffk vdggLk. ,it %dW tifggLk

1. nghwpahywpjy
2. Gydhywpjy
3. tpdhjy vdDk tpjpfisAk mtwiwj Jizahfg gwwp xOFk xOffqfisAk FwpfFk

I nghwpahywpjy

%fF - ,ayG

eh - ,ayG

f z - ,ayG

Njhy - nt S jj epwgg i l f s fh z ggLk

nr t p - ,ayG

II. Gy dhywpj y

ehwwk - ,ayG

R i t - ,ayG

xs p - ,ayG

CW - ,ayG

Xi r - ,ayG

III tpdhjy:

tpdh vdgJ Nfllwpjy› tpdhjy vdgJ gpzpAwNwhdpljJk›gpzpjhNghdpljJk c s s nghwp Gydfs gpzpfisj njspthA z hjJkhifahy kUjJtdjdid Nehffp tej gpzpAwwt i d gwwp mwpa Nt z ba t w i w mwpeJk j d nghwp Gydfshy gpzpahs D i la nghwp Gyd topaha c z ht i j NflLk mtd xUffhy vffhuzjjpdhNy jhd Nfllijr nrhyYtjwfpayhjtdhapUggpd mtd Rwwjjhiuf nfhz L mwpaf $ba t iu mwpeJk gpzpiaf fzpjjiyg gwwpNa FwpfFk.

cly tdik

cly tdik 3 t ifggLk

1) **,awi f t d i k**

,J rjJt›uNrh› jNkh F z qfspdpdWk ,awi fahfNth c z lht jhk Fly fpUkp Nehapy ,awi f t d i k ghjpfFk

II) nrawi f t d i k

clwflLfspy t d i k nflh t z z k epiy epWjjf $ba kUeJfhsYk› fhjJ nfhs t jhy c z lht jhk

III) **fhy t d i k**

,J M z lhYk (t ajhYk) ,sNt dpy Kjypa ngUknghOjhYk c z lht jhk› Fly fpUkpapy fhy t d i k ghjpgG

fhhfhyk - Mtzp Gullhrp (August, September)

$jphfhyk - Iggrp fhhjjpif (October, November)

Kdgdpfhyk - khhfop ij (December, January)

gpdgdpfhyk - khrp gqFdp (February, March)

,sNtdpy fhyk - rpjjpiu itfhrp (April, May)

KJNtdpy fhyk - Mdp Mb (June, July)

thjk gpjjk fgk Mfpad jddpiy tshrrp NtwWepiy tshrrp jddpiyailAk fhyk

Fwwqfs	**jddpiy tshrrp**	**NtwWepiy tshrrp**	**jddpiy**
thjk	KJNtdpy	fhhfhyk	$jph fhyk
gpjjk	fhhfhyk	$jph fhyk	Kdgdp fhyk
fgk	gpdgdpffhyk	,sNtdpy	KJNtdpy

Itifepyqfs

Itifepyqfspy trpggthfSfF czlhff $ba Neha epiyfs

1. FwpQrp (kiy rhhej ,lk)

   ,ujjk cwpQRk Ruk tapwwpy Mikfflb czlhfFk.

   rpNyjJkk jqFk.

2. Kyiy (fhL rhhej ,lk)

   thj Neha czlhFk.

3. kUjk (tay rhhej ,lk)

   KjNjhl Nehafis NghfFk.

4. neajy (fly rhhej ,lk)

   nkypej cliyggUffr nraAk <uiyg ngUfFk

   nfhLikahd thjNeha czlhFk FlythA czlhfFk.

5. ghiy (kzy rhhej ,lk)

   thjk gpjjk fgk ,twwpy tpisfpdwgpzpflF ,Uggplk.

v z t i f j NjhT

gp z p mwpAk K i wapi d kUj J t mwpQhf s v z t i faha tF j J s s dh

‘ ehbggh p rk ehepwk nkho p t p o p
kyk K j j puk p i t kUj J tuhAj k”

i) ehb

thjnkd Dk ehba J Njhdwpy
rjkejnkhL tapW ngUky j pul r pthA
rj KWqf puh z p kNfhjuk euh i k
j pus thA # i y ty pfLgGj j i u
ej KWqf p Uk p F dkk m z l thj k
ep i yAk ehf f phpr ruqf s je JNkf k
Ngj fkh K jug p z p %yNuhf k
Ngr nt F g p z p f S Nk nghUs jhNk

rj f ehb

ii)] gh p rk

k p j nt ggkhf fh z ggLk

iii) eh

nt S j J› khgbej J Nghy fh z ggLk

IV) epwk

nt S j j epw g i l f s fh z ggLk

V) nkho p

, ayG

vi) t p o p

, ayG

vii) kyk

kykhd J , WfyhfNth myy J , s fhyhfNth fh z ggLk.

ky j j py GOf f s fh z ggLk.

Viii) % j j puk

, ayG

ehFwp

epwk - ,skkQrs

kzk - ,ayG

vil - ,ayG

Eiu - ,yiy

vQry - ,yiy

neafFwp

thj eh myyJ gpjj eh fhzggLk

kyfFwp

epwk - ,ayG

kzk - ,ayG

,Wfy - cssJ

,sfy - ,yiy

kUjJtk

gjjpak

FlwfpUkp Nehapy ghjpjj FoeijfSfF cly rjjwW ,UfFk. vil FiweJ fhzy> ntSgG Neha Nghdw FwpFzqfs ,Uggjhy mtwiw jtphff

i) ,UkG rjJ epiwej czTfs

ii) Guj rjJfs czTfisAk fhafwpfs> fiufs cz z Ntz Lk

Flypy kpFej msT ngUfp tsheJss GOffis ntspNawWtjwFk gpwF mjd fhuzkhf tUfpdw Jiz NehafSfFk kUjJtk nraa Ntz Lk.NkYk Flypy GOffs czlhfhky ,UffkUeJfSkjff MNyhridAk toqfNtz Lk.

Flypy GOffis mfww GOf nfhyyp nraifAk> kykpsffp nraifAk nfhzl kUeJfisf nfhLjJ GOffisAk mjd KlilfisAk kyjJld ntspNaww Ntz Lk.

mwpTiu

1. mRjjkhd eiugUff $lhJ.
2. J}aikaww cz T› fhafwpfs› goqfs cz gij jtphffNt z Lk.
3. nflL Nghd japh› gioa rhjk› mOfpa fhafwpfs› goqfs jtphffTk.
4. J}aikahd Milfis mzpa Nt z Lk.

MODERN ASPECTS

GIARDIASIS

INTRODUCTION :

Helminthiasis also known as worm infection a parasitic disease of humans and other animals in which a part of the body is infected with parasitic worms known as helminths. There are numerous species of these parasites, which are broadly classified into tapeworms, flukes, and roundworms. They often live in the gastrointestinal tract of their hosts, but they may also burrow into other organs where they induce pathology damage.

Helminthiasis has been found to result in poor birth outcome, poor cognitive development, poor school and work performance, poor socioeconomic development and poverty. Chronic illness, malnutrition, and anaemia are futher examples of secondary effects.

HELMINTHIC INFESTATIONS :

- Helminthiasis is caused by three groups of worms
- Nematodes (roundworms)
- Trematodes (flukes)
- Cestodes (tape worms)

These organisms differ markedly in their life cycle, mode of infections and pathogenesis.

PARASITIC INFESTATION :

It has been estimated that, worldwide there are 1-2 billion episodes of toxoplamosis, one billion episodes of infestation due to Ascaris lumbricoides (round worm), 800-900 million episodes of bookworm infestation, 200-400 million episodes of amoebiasis, 200-300 milllion episodes of schistosomiasis and malaria, and 200-250 million episodes of filarias is and giardiasis in a single year certainly, parasitic diseases occur most frequently in developing countries, perhaps due to generally inadequate standards of sanitation. We should note, however, that such diseases often without clinical symptoms, occur even in developed countries maintaining high sanitary standards; infact, parasitic diseases are being recognized

with increasing Frequency in North America and Europe, especially in immune compromised patients.

The most striking difference between parasites and other infectious agents is the variety of host vectors and stages in their life cycles. Knowledge of the life cycle is important since this provides important clues to understanding the parasite diseases and helps in diagnosis and in the development of public health strategies.

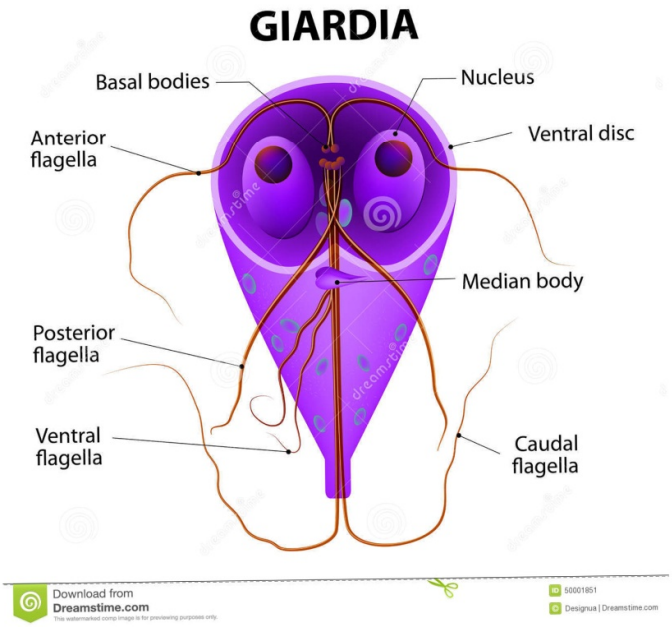
Several parasitic diseases of humans are infact, zoonoses (caused by agents that usually infect other mommats, birds or reptiles). Sometimes, the parasites require both humans and animal to complete their lifecycles (eg: the developmental cycle of Taenia saginata, the beef tapeworm, requires both humans and animals become infected). In other instances the parasite accidentally infects humans and then is unable to complete its development, the human becomes a 'dead – end – host' for it.

Not all infections by parasites end in disease, that is , the host may harbour the parasite but may not suffer from any symptoms; this may occur if the parasite is present in small numbers. Severity of infection depends on agent factors such as the number of parasites causing the infection and host factors such as the age, sex and the race of the host.

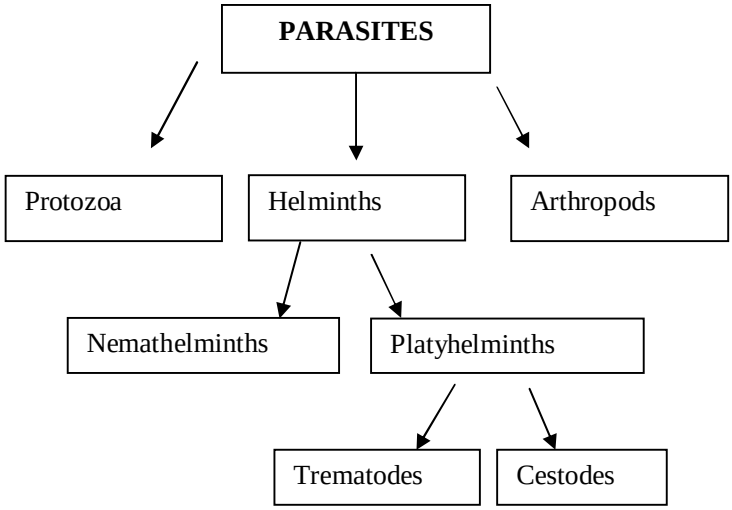
Many becteria and viruses cause acute illnesses. Similarly, some parasitic diseases may be aute and life threatening even in normal healthy persons or in immunocompromised individuals.

However, most parasitic diseases tend to be more chronic and there in lies the danger. They may cause little damage to the host in the beginning, and may be more of an inconvenience, so that the infected individual does not seek treatment. However, if left untreated they gradually lead to harmful effects, such as anemia, fever or pruritis in the host.

+



CLASSIFICATION OF PARASITES :



GIARDIASIS :

Giardiasis, caused by Giardia lamblia (also known as G.intestinalis or G.duodenalis) is a major cause of diarrhea in children and in travelers. Giardia lamblia has a worldwide distribution and is often the etiologic agent of out breaks of gastroenteritis and travelers diarrhea. It is the most commonly reported intestinal protozoa in the united states. The main groups at risk for infection are travelers returning from endemic areas, hikers who drink untreated water from streams, and children in day care centers. Travelers are often enposed to conditions in which water borne or food – borne cysts are ingested due to poor sanitation. However, cysts are resistant to chlorination and out breaks have been reported from fecally contaminated swimming pools**.**

Animals such as the beaver may serve as reservoirs and may be a source of infection for backpackers, who drink from streams or rivers. The names 'beaver fever' or 'backpacker's diarrhea' have been used to describe the condition in this group of people. Children younger than 5 years of age are at particular risk for infection and G.Lamblia has caused outbreaks of diarrhea in nurseries and daycare centers as a result of person to person contact. Along with E.histolytica, G.lamblia among those who practice oral – anal sex.

Giardia was first seen by leeuwenhuek in 1681 while examining his own stools. Most Giardia infections are a symptomatic.

CLASSIFICATION OF GIARDIA

- Phylum : Protozoa
- Subphylum : Plasmoderma
- Class : Mastigophora
- Order : Diplomonadida
- Genus : Giardia

HABITAT

The organism is present in the duodenum and upper part of ileum. This flagellate inhabits the duodenum and the upper part of the jejunum in humans. Incidence of Giardia lamblia varies with age. It is most common in children but frequency in adultls is appearently increasing in recent years.

STRUCTURE:

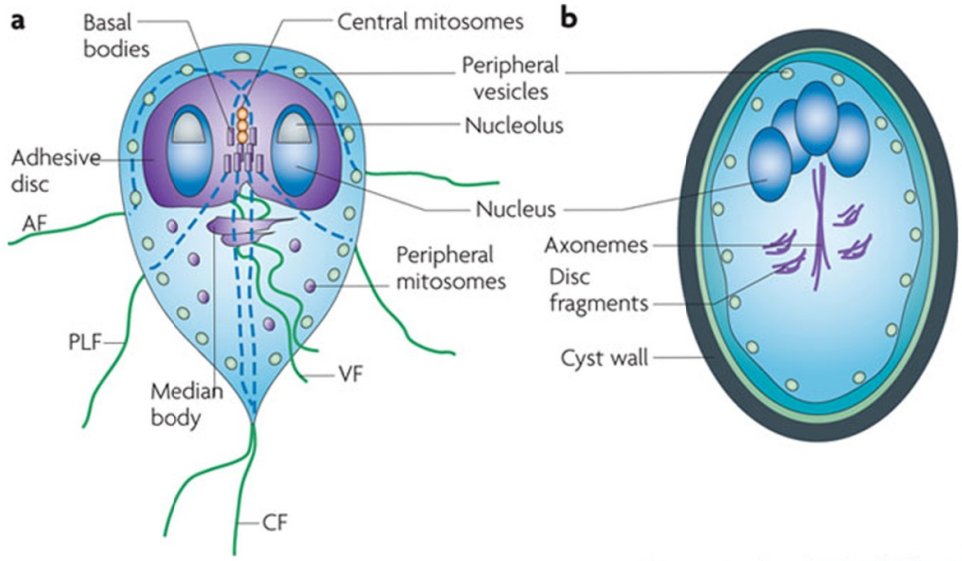
The Giardia life cycle involves two stages.

- The trophozotie
- The cyst

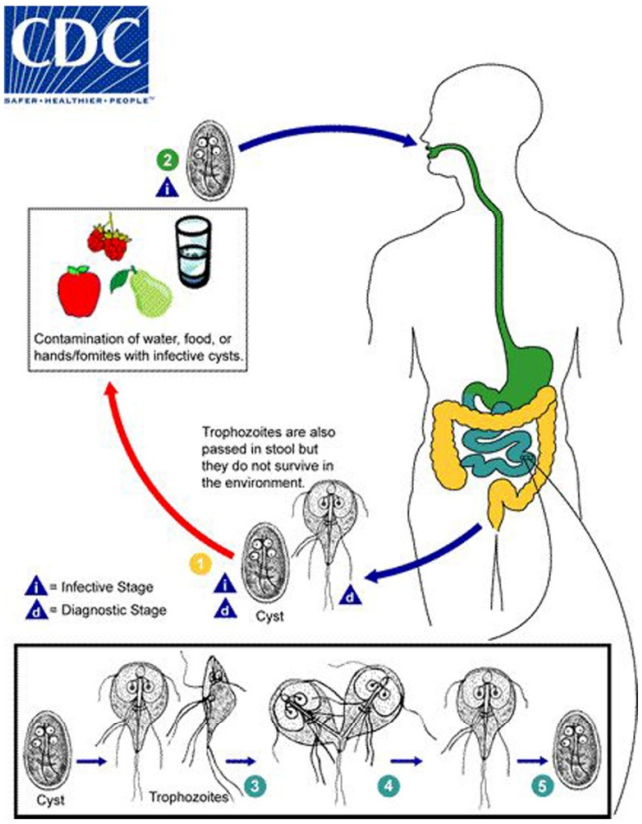
The Giardia lamblia trophozoite is easily recognized under a microscope. It is about 12 to 15 um long, shaped like tennis racket. The dorsal surface is convex and the ventral surface is concave with a sucking disc, and has two nuclei that resemble eyes, structures called median bodies that resemble a mouth and four pairs of flagella that look like hair; these combine to give the stai ned trophozoite the appearance of the face. The flagella help these organisms to migrate to a given area of the small intestine, where they attach by means of an adhesive disc to the epithelial cells and thus maintain their position despite peristalsis. It is bilaterally symmetrical. The anterior end broad and the posterior end tapers to a sharp point.

EPIDEMIOLOGY :

The infection is endemic in developing countries with poor sanitation. Individuals with malnutrition, humoral immunodifiencies and cystic fibrosis are particularly susceptible. Children appear to be more severely affected than adults.



Nature Reviews | Microbiology


CDC
SAFER • HEALTHIER • PEOPLE™
2
i
Contamination of water, food, or hands/fomites with infective cysts.
Trophozoites are also passed in stool but they do not survive in the environment.
1
i
d
Cyst
d
i = Infective Stage
d = Diagnostic Stage
Cyst
Trophozoites
3
4
5

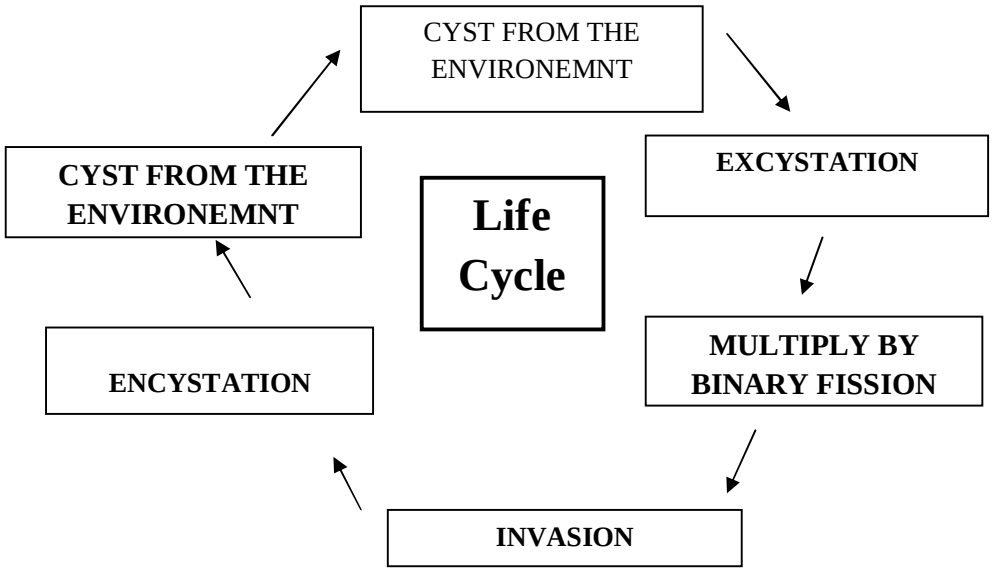
LIFE CYCLE :

The usual natural reservoir in humans, although wild and domestic animals may also be a source. The trophozoite multiples in the intestine by binary fission. When conditions are unfavourable, encystment occurs (usually in the intestine). Humans are infected when they ingest the cyst. The trophozoites emerges form the cyst, multiples in enormous numbers and colonises the duodenum and often the Gall bladder

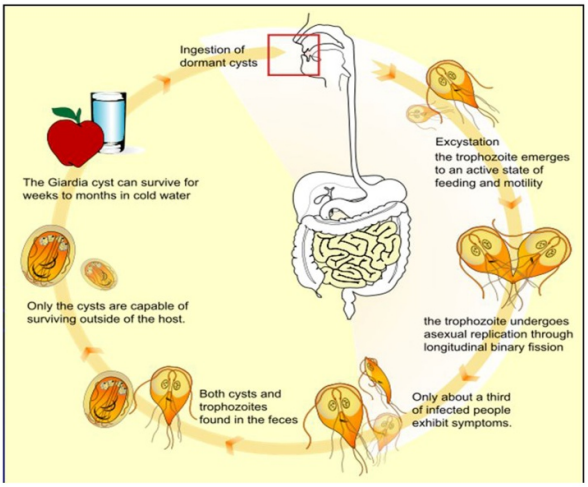
Giardia infection is acquired by ingesting cysts. The exposure of cysts to host stomach acidity and body temperature triggers excystation, which is completed in the small intestine with the emergence of trophozoites that promptly attach to the host intestinal epithelium.

The trophozoite or the actively metabolizing motile form, lives in the upper two – thirds of the small intestine (duodenum and jejunum) and multiples by binary fission. Trophozoites that are swept into the faecal stream lose their motility, round up and are excreted as dormant, resistant cysts. The mechanisms that cause the signs and symptoms of giardiasis are not known.

Excreted trophozoites disintegrate. The cyst, although not as resistant as many bacterial endospores is sufficiently hard to survive host to host transfer. For example some Giardia cysts excyst successfully after more than 2 months of storage in water and refrigerator temperatures.



THE LIFE CYCLE OF GIARDIA LAMBLIA



MODE OF INFECTION IN HUMANS :

SOURCE :

Infected human, beaver, other wild and domestic animals.

INFECTIVE AGENT :

Cyst in feces.

MODE OF TRANSMISSION :

Faeco-oral transmission. Cysts in faces are transmitted to the mouth directly by contaminated fingers or indirectly by contaminated water.

PORTAL OF ENTRY :

Oral Cavity

SITE OF LOCALISATION

Trophozoite (released from cyst) localises in duodenum and bile passages.

ETIOPATHOGENESIS:

Giardia exists in two stages cysts and trophozoites. Outside the human body it exists in the form of cysts. Cysts are hardy, capable of surviving in cool, moist environment for upto 2 months and in water that has been routinely chlorinated but are destroyed by boiling for 10 minutes.

Transmission of infection is through cysts which may be ingested in contaminated water or food or spread by direct person to person contact. Ingestion of 10 – 100 cysts is sufficient for causing infection. Low P_H of the duodenum facilitates excystation and release of trophozoites. Trophozoites colonize the duodenum and proximal jejunum of the host, where they attach to the intestinal brush border. It is believed that the infection causes diarrhea via a combination of intestinal malabsorption and hypersecretion. These effects cause malabsorption and maldigestion and in addition, may facilitate the development of chronic enteric disorders, including inflammatory bowel disease and irritable bowel syndrome.

CLINICAL INFECTION:-

As few as 10 cysts may initiate infection with G. lamblia. The organism reacts to the P_H in the stomach and begins to excyst. The organism then responds to the slightly alkaline P_H in the small intestine and completes the process in the duodenal area where the presence of carbohydrates and bile stimulate trophozoite

growth. Although it does not invade the mucosal surface it does attach to the surface of columnar epithelial cells. Adherence to the intestinal mucosa is achieved by the ventral sucking disk and possibly binding by a mannose binding lectin. Pathologic mechanisms associated with the organism include damage to the mucosa, interference with absorption of nutrients, and irritation. Bacterial overgrowth may contribute to symptoms. There is no protozoan enterotoxin produced but decreased height or atrophy of the intestinal villi affects activity of several intestinal enzymes including trypsin and lipase. Protection from colonization may be achieved due to secretory IgA present on the mucosal surface as well as the presence of molecules such as nitric oxide.

In most patients the acute infection manifests as a self limiting diarrhea with malaise, cramps, nausea and abdominal tenderness after an incubation period of 12 to 14 days. Explosive, foul smelling diarrhea is present. Symptoms last 1 to 4 weeks and the patient may lose a significant amount of weight. Patients with secretory IgA deficiency or achlorhydria seem not only to be more apt to develop the infection but also to develop chronic infection. In chronic giardiasis there may be a malabsorption like syndrome with up to 20% weight loss, fatigue, anoreria, and steatorrhea with large amount of gas.

CLINICAL FEATURES:

The incubation period after ingestion of cysts is 1 – 2 weeks. Most infections in both children and adults are asymptomatic. Symptomatic infections are more common in children than in adults and usually take the form of acute diarrhea with sudden onset of explosive, watesy, foul smelling stools, along with nausea, and anorexia, other may also have abdominal distension.

1. Flatulence
2. Epigatric cramps and Mild Fever

There is no blood or mucus in stools. The illness may last 3 – 4 days and is usually self limiting in normal immonocompetent children. Variable degree of malabsorption may occur. Some patients may have a protracted course with persistent or recurrent mild to moderate symptoms such as brief episodes of loose foul smelling stools alternating with constipation. Persistent diarrhea may be seen

in 30 – 50% cases. A few children may develop chronic diarrhea, lactose and fat malabsorption and failure to thrive.

LABORATORY DIAGNOSIS

- This depends on detection of cysts in formed feces or trophozoites in liquid feces concentration methods (e.g. Formalin – either procedure). A stained smear should be examined. Several samples should be tested at different intervals since cyst production may not be continuous.
- Trophozoites (rarely cysts) can sometimes be demonstrated by duodenal aspiration or the 'string test' or duodenal biopsy.

Feces serve as the usual diagnostic specimen, but shedding of the cysts is irregular, and multiple specimens are often required for diagnosis. When clinical symptoms persist and the organism cannot be demonstrated in the feces a duodenal aspirate or the Enterotest may be used to isolate the organism. EIAs using monoclonal antibodies to detect soluble antigens of G.lamblia in stool have also been developed. Several direct fluorescents antibody kits that detect the presence of either G.lambliacysts or the presence of Giardiacysts are available.

The trophozoites of G.lamblia are pear shaped bilaterally symmetric and measure approximately 9 to 21 by 5 to 15mm. They show a characteristic "falling leaf" motility in a wet mount. In a permanently stained smear the binucleate organism has been described as having an "old man" appearance. Two oval nuclei each with a large central Karyosome, are on each side of the midline. Four pairs of flagella midline axonemes and two median bodies posterior to the nuclei are also present. A large ventral sucking disk is attached to the intestinal wall.

Cysts of G.lamblia are oval and approximately 8 to 12mm by 7 to 10mm. There are upto four nuclei and the cytoplasm is often pulled away from the cyst wall. On a permanently stained smear, the retracted flagella and other internal structures give the cyst a cluttered appearance.

COMPLICATIONS OF GIARDIASIS:

Giardia infection is almost never fatal in industrialized countries but it can couse lingering symptoms and serious complications especially in infants and children. The most common complications include.

- **DEHYDRATION:**

Often a result of severe diarrhea, dehydration occurs when the body doesn't have enough water to carry out its normal functions.

- **FAILURE TO THRIVE:**

Chronic diarrhea from giardia infection can lead to malnutrition and harm children's physical and mental development.

- **LACTOSE INTOLERANCE:**

Many people with giardia infection develop lactose intolerance (the ability to properly digest milk sugar). The problem may persist long after the infection has cleared.

EXTRA – INTESTINAL CONSEQUENCES OF GIARDIA INFECTIONS

Until recently, the scientific literature rarely reported extra – intestinal manifestation in giardiasis.

OCULAR PATHOLOGIES:

The first description of ocular complications in patients with giardiasis was made by Barraquer who reported cases of iridocyclitis, choroiditis and retinal haemorrhages in patients that presented diarrhea linked to the presence of Giardia. More recent observations described a "salt and pepper" degeneration (Punctuate areas of normal hyperpigmentation on a light yellow pink – retina) involving the retinal pigmented epithelium in children suffering from giardiasis.

ARTHRITIS:

Inflammatory arthritis has also been described following enteric infections with the organism such as Giardia sp, Brucella sp.

ALLERGIES:

In a recent study in children, giardiasis was associated with an increase in total serum immunoglobulin E (IgE) levels and an enhanced IgE antibody response to common allergens.

GENERAL PREVENTION METHODS:

Effective control measures are potentially available for all parasitic diseases. The most effective measures seek to disrupt the mode of transmission of the parasitic diseases and to interrupt the parasites life cycle. Sometimes drugs may be used to prevent a person from becoming infected (chemoprophylaxis), for example chloroquine for persons entering areas where malaria is prevalent. Treatment regimens for parasitic infections are generally not efficient in controlling the disease due to long delay between infection and clinical presentation; treatment is usually given to prevent the systemic complications of chronic infection or to relieve acute complications. Since many important parasites survive and produce disease because they are able to evade the host immune response it has been difficult to develop effective vaccines for such diseases. In recent years, however efforts have been intensified to develop vaccines for malaria, schistosomiasis, onchocerciasis, lymphatic filariasis and toxoplasmosis.

PREVENTION FOR GIARDIASIS:

- There is no vaccine to prevent giardia in humans nor any recommended chemoprophylaxis.
- Practice good hygiene, wash hands after using the bathroom, before eating and after changing a diaper.
- Avoid consuming contaminated water. Don’t swallow recreational water and don’t drink untreated water.
- If traveling overseas to a developing country be very care of drinking the water and of raw food.

TREATMENT:-

Children and adults who have giardia infection without symptoms usually don’t need treatment unless they are likely to spread the parasites. Many people who do not have problems often get better on their own in a few weeks.

When sings and symptoms are severe or the infection persists, doctors usually treat giardiasis with antibiotics.

MATERIALS AND METHODS

In this dissertation work the patients suffering often Masarai Puzhu Noi were selected from the post Graduate Kuzhanthai Maruthuvam Inpatient ward of Hospital attached to the Govt. Siddha Medical College, Palayamkottai. Those who fulfilled the criteria for Masarai Puzhu noi (Giardiasis) according to the Pathophysiology of siddha reviews and modern reviews.

All the cases were clinically diagnosed by siddha methodology of Poriyalarithal (Inspection), Pulanalarithal (Palpation), Vinathal (Interrogation). Envagai Thervugal (General Examination), Neerkuri (Urine Analysis), Neikkuri and also with male and female children were taken into account for the study. In both systems of medicine Siddha and Modern Paediatric professors, Readers, Professor of pharmacology, professor of Biochemistry opinion were obtained. A detailed proforma was framed and was approved by both the departments of siddha and modern paediatrics.

METHODS:-

The patient who fulfilled all the following criteria were selected for this study.

1. Age 3 to 12 years
2. These who fulfilled the diagnostic criteria for Masarai Puzhu as per siddha and modern system of medicine.
3. Using this criteria 40 patients were selected for complete study.

A well framed proforma which contains the proper particular in the siddha and modern highlights. In the proforma patients name age, sex information, socio-economical status of the parents, educational status of the parents as well as the patient's complaints and duration, present history, previous history, history of pica, history of Infections, neo-natal, post-natal history of the patient, muththodam, Envagai thervugal, Ezhu udalkaltugal, Neerkuri, Thinai and laboratory histological investigations everything were noted.

SIDDHA AND MODERN SYSTEM'S CRITERIA FOR THE DIAGNOSIS OF MASARAI PUZHU:

1. Pain in abdomen
2. Loss of appetite
3. Irregular stools
4. Weight loss
5. Disturbed sleep and teeth grinding.
6. Itching around the anus
7. Vomiting.

LINE OF TREATMENT IN MASARAI PUZHU

When treating for removal of the disease the following principle must be noted

‘Nehaehb Neha Kjy ehb mJj z‰fFk
thaehb thaggr nray”.

And the siddha system is fully based on the herbals

‘NtHgghU› j iogghU› k‰Qr‰d ffhy nkyy nkyy
gwg nreJ}uk ghNu”.

Siddha maruthu says first begin treatment with mooligai medicine. If the prognosis is poor then slowly use parpam and chendooram.

1. First bring out the thiridhosa to its normal physiological activities.
2. Anthelintic are to be administered.
3. After neutralizing the thiridhoshas appetizer drugs are given to increase the appetite.
4. For improving the blood, Iron preparations are used.
5. Removal of the causative factors.
6. Dietic treatment is so equal as medicine.

Medicine are advised to be in the form of Kudineer, Chooranam, Pills, Lehyams, Nei parpam, Chendooranam. The author selected Nayuruvi Nei.

In addition Masarai Puzhu Noi symptoms like pain in abdomen, loss of appetite, vomiting, teeth grinding, Irregular stools, weight loss, patches on the skin, Itching around the anus present.

TREATMENT:-

- Treatment is to be based upon accurate recognition of aetiology, diagnosis and prognosis of the disease.
- The proper treatment is based upon proper diagnosis particularly with a view to the thiridhosha pathology.
- Before starting the actual treatment the presence or absence of toxin in the body produced due to derangement of thiridhosha’s is noted.

‘Ngj‰ahy thje jhOk
rjj‰ahy g‰jje jhOk

mQrdjjhy fge jhOk”

In this disease poor hygienie habits, poor sanitation, Improperly cooked foods lower the resistance of the individual resulting in upsitting the function of Vatha. The deranged vatha causes the dysfunction of kukkianal which permits the multiplication of the Intestinal worms in the Aamasayam.

CLINICAL STUDIES

After finishing the toxicity studies 40 cases selected from the OPD and IPD of Kuzhanthai Maruthuvam Department, Government Siddha Medical College, Palayamkottai. They were treated with the trail drug **Nayuruvi Nei** and observed for Prognosis clinically.

STUDY DESIGN & CONDUCT OF THE STUDY.

- Study Type : As open clinical study
- Study Place :Government Siddha Medical College & Hospital, Palayamkottai.
- Study Duration : 24 Months
- Treatment Period : 3 days

POPULATION AND SAMPLE:

1. Population consists of pediatric patients attending the Government Siddha Medical College & Hospital, Palayamkottai.
2. The Sample Consists of Patients 3-12 years group fulfilling all the inclusion criteria and exclusion criteria.

STUDY PARTICIPANTS:

INCLUSION CRITERIA.

1. Age 3-12 Years
2. Sex- Both male and female children
3. Diarrhoea Fever,
4. Abdominal discomfort
5. Fatigue
6. Abdominal Pain
7. Anorexia, weight loss
8. Biting the teeth during Night
9. Nocturnal Perianal pruritis
10. Dry skin, patches on face.

EXCLUSION CRITERIA.

1. Patients with any other serious systemic illness.
2. Sometimes a larger bunch of worms may block the intestinal tract and cause total constipation, abdominal distension and vomiting.
3. Long term steroid treatment
4. Pancreatitis and cholecystitis
5. Irritable bowel syndrome
6. Rectal prolapse is the complication of heavy infection of whip worm
7. Acute stages of hook worm infection causes diarrhea, stool bearing reddish or black colour.
8. Potential impact of hook worm infection in children who can experience stunted growth and mental development. In severe type of hook worm edema in face and around the eyes. Pot belly is the typical sign in children.
9. In ascaris worms the most common clinical problem are due to pulmonary disease and obstruction of the intestinal or biliary tract.

WITHDRAWAL CRITERIA.

- ❖ The drug not responding to the condition.
- ❖ Intolerance to the drug and development of adverse reactions during drug trial.
- ❖ Patient turned unwilling to continue in the course of clinical trial.
- ❖ Occurrence of any serious illness.

Sample Size : 40 Patients.

ASSESSMENTS AND INVESTIGATIONS.

Clinical Assessment.

- ❖ Diarrhoea, Fever,
- ❖ Fatigue
- ❖ Abdominal Pain
- ❖ Anorexia, Weightloss
- ❖ Abdominal discomfort
- ❖ Biting the teeth during night.
- ❖ Nocturnal perianal pruritis.

- Dry skin, patches on face

SIDDHA TESTS AND ASSESSMENTS.

1.Udal Kattukal

- Saaram
- Senneer
- Oonn
- Kozhuppu
- Enbu
- Moolai
- Sukkilam / Suronitham

II. Envagai Thervu

- Naadi
- Sparisam
- Naa
- Niram
- Mozhi
- Vizhi
- Malam
- Moothiram

III. Neerkuri

IV Neikuri

ROUTINE INVESTIGATIONS.

1. Blood

- TC
- DC
- ESR
- HB
- Absolute Eosinophil count

Specific Investigations.

1. Examination of stools for ova and cyst.
2. NIH swab-eggs can often be demonstrated in the scraping from perianal skin by this method (wherever necessary).

Data Collection forms

Required information will be collected from each patient's parents/ guardian using the following forms.

Form I : Screening and selection proforma

Form II : History taking proforma

From III : Clinical assessment proforma

Form IV : Laboratory Investigation proforma

Form V : Withdrawal form

Form VI : Patient Information sheet.

Data Analysis

After enrolling the patients in the study a separate file for each patient will be maintained and all forms will be kept in the file. Whenever the patients visits OPD during the study period necessary entries will be made in the assessment forms.

The dated entries and adverse events if any will be monitored by the Head of the Department.

OUTCOME TREATMENT

1. Primary Outcome

Primary outcome is mainly assessed by comparing the reduction in clinical symptoms and recurrence before and after treatment.

2. Secondary Outcome

Secondary outcome is assessed by comparing the safety parameters before and after treatment.

DRUG REVIEW

PREPARATION AND PROPERTIES OF TRAIL DRUG

I. ehAUtp nea (clgpuNahfk)

E}y Mjhuhk

Foeij kUjJtk (ghy thflk) gff vz 594

E}y Mrphpah

f.r.KUNfr Kjypahh

kU.nghd.FU rpNuhdkzp

ehAUtp nea

“kriuNehaf FfNfs khNd
kUTkh tpnddA offpy
Firapdh AUtp Nkdp
nfhOQrpJ} JisNahh ehYk
trkGld RfF kQrs
tifNahh ghf fsT $lbg
girggj nkOfhaf fharrpg
ghpeJiu kaiu NehaNghk”

NrUk rufFfs:

- FgigNkdp ,iy - 6.022 fpuhk
- ehAUtp ,iy - 6.022 fpuhk
- nfhSQrp ,iy - 6.022 fpuhk
- J}Jtis ,iy - 6.022 fpuhk
- trkG - 6.022 fpuhk
- RfF - 6.022 fpuhk
- kQrs - 6.022 fpuhk
- gR nea - 325 kp.yp.

nraKiw:

ehAUtp ,iy› FgigNkdpapiy› nfhopQrpapiy› J}Jtisapiy› trkG› RfF› kQrs Mfpa VO nghUlfisAk tiffFg ghffsT tjnkLjJ jz zhtplL miujJ cofF (325 kp.yp.) gRnea NrhjJf

fharrp nkOF gjjjpy tbjJfnfhzL taJfFj jff mstpy nfhLff kriugGO Neha jUk.

msT

- ❖ 5 kp.yp. - 3 Kjy 5 taJ tiu
- ❖ 10 kp.yp. - 5 Kjy 8 taJ tiu
- ❖ 15 kp.yp. - 8 Kjy 12 taJ tiu

jUk Nehafs

Fly fpUkp - kriugGO

MAlfhyk

6 khjk

நாயுருவி நெய் - சேரும் சரக்குகள்

நாயுருவி இலை

குப்பைமேனி இலை

கொளுஞ்சி இலை

தூதுவளை இலை

சுக்கு

வசம்பு

மஞ்சள்

பசு நெய்

நாயுருவி நெய்

PROPERTIES OF TRIAL MEDICINE

1. ehAU tp

Botanical Name	:	Achyranthes aspera
Family	:	Amaranthaceae
NtW ngah	:	fhQrhp› rukQrhp› rpW flyhb, nfhllhtp› khKdp
gadgLk cWgG	:	,iy
Rit	:	ifgG› JthgG› fhhgG
nraif	:	Jthggp rpWehngUffp clwNwwwp Kiwntggfwwp

“ kypfhuq ifgGss mgkhhffp apdNtuhy trpa Kzlhk ,iy%y cjpukejk Ngjpfgk tpahTjejp apwqF Nkfk kiyNaWk gbGhpA Kssh›rp grpkhwWk tir %yk gykhjhf Fss Kfif efF tqfr rpeJ}uk gz ZkhNjh”

CHEMICAL CONSTITUENTS :

- Triter penoid saponins.
- Oleanolic acid
- Ecdysterone an insect moulting hormone
- Long Chain alcohol
- Tritriacontane
- Achyranthine

2. FgigNkdp

- Botanical Name : Acalypha indica
- Family : Euphorbiaceae
- NtW ngah : mhpkQrhp› G+idtzqfp›Nkdp
- gadgLk cWgG : ,iy
- Rit : ifgG

- nraif : GOfnfhyyp
  ngUkyk Nghffp
  rpWehg ngUffp
  thejpAz lhffp
  Nfhioafwwp

"jej% yggpzpjj jejpLGz rhttplk
ceJ Fdkk thjk cjpu% - yejpdT
#yQR thrk njhlhg rqfgk Nghk
Qhyqnfhs Nkdpaj dhy"

CHEMICAL CONSTITUENTS :

It contains

- Acalypus
- Acalyphine

3. J}Jtis :

- Botanical Name : Solanum trilobatum
- Family : Solanaceae
- NtW ngah : mshffk› rpqftyyp
- gadgLk cWgG : ,iy
- Rit : rpW ifgG
- nraif : cukhffp
  Nfhioafwwp
  ntggKz lhffp

" fhJ kejk fhnjOrrp fhre jpdT kjk
XJ kejk KjNjhlk cl# iy - jhJ ellk
kJ isggjjphpia Nktrnra thuhaeNjhh
J}J isggjjphpiaj JajJ "

CHEMICAL CONSTITUENTS

- Leaves contain moisture
- Proteins, Minerals
- Crude Fibre and other Carbohydrates

4. t rkG

Botanical Name	:	Acorus calamus
Family	:	Araceae
NtW ngah	:	c f f ℘uk› t r k› c i ugg h d› g℘s i s kUeJ
ga d g Lk cWgG	:	N t h
R i t	:	fhhgG
n r a i f	:	E lGO f n fhy y℘ n j hwWGO t f ww℘ the j℘A z lh f f℘ gr℘j j j J} z b m f l L th a t f ww℘ n t ggK z lh f f℘

‘ghkghj℘ eQrw GjgG z ty℘t℘lghfq F dkk
 # kgh h℘uj jg℘j j k K f ehwwk t d # i yr d d℘
t kghk i g fhrk g℘y fQ r℘y℘gj k tw℘Uky
jhkghq f℘Uk℘ a℘i tNaF khr℘t rkg℘i dNa”

CHEMICAL CONSTITUENTS	:	A volatile essential oil acorin, bitter principle acoretin (Choline), Calamine, Starch

5.R f F

❖ Botanical Name	:	Zingiber officinale
❖ Family	:	Zingiberaceae
❖ NtW ngah	:	mU f f d› m j f k› c gF y y k› t℘l %ba mk℘h j k› R z b
❖ ga d g Lk cWgG	:	f℘o q F
❖ R i t	:	fhhgG
❖ n r a i f	:	n t ggK z lh f f℘ gr℘j j j J} z b m f l L th a t f ww℘

‘# iykejk neQnrhpgG NjhlNkg gkgo iy
%yk , iugppUky %fFeh- thyfg
Njhlkjp rhue njhlhthj Fdkehj
Njhlk M kkNghfFQ RfF”

CHEMICAL CONSTITUENTS

- Polyphenol
- Vitamin C
- β Carotene
- Flavonoids
- Tannins

6.kQrs:

- Botanical Name : Curcuma longa
- Family : Zingiberaceae
- NtW ngah : mhprdk› fhdrdp› epr› gjk
- gadgLk cWgG : fpoqF
- Rit : fhhgG
- nraif : mflLthat fwwp
  ntggK z lhffp
  <uyNjwwp

“nghd dpwkhk Nkdp Gyhdhww KkNghFk
kdD GUl trpakhk-gpddpnaOk
thejpgpjj Njhlikak thjk Nghe jgdkhq
$hejkQr spdfpoqFfF.”

CHEMICAL CONSTITUENTS

- An essential Oil
- Resin and alkaloid
- Curcumine
- Turmeric Oil
- Caproic acid

7. nfhSQrp

- ❖ Botanical Name : Tephrosia purpurea
- ❖ Family : Fabaceae
- ❖ NtWngah : nfhsSffhaNtis
- ❖ gadgLk cWgG : ,iy
- ❖ Rit : fhhgG
- ❖ nraif : kygGOtfwwp
  clYukhffp
  Nfhioafwwp
  rWehngUffp

“thjkpff njdghhfFk thatwlrp nadghhfFk kJ jej %y Neh nadghhfFk - XjKww nfhsSffh jhufgk Njhwwpanjd ghhfFnkhU nfhsSffhaNtisjidf $W.”

CHEMICAL CONSTITUENTS :

- ❖ Rotenoids
- ❖ Iso Flavones
- ❖ Flavonones
- ❖ Flavanols
- ❖ Flavones

OBSERVATIONS AND RESULTS

RESULTS WERE OBSERVED WITH RESPECT TO THE FOLLOWING CRITERIA.

- Age Reference
- Sex Reference
- Religious Reference
- Socio economic status in the patient Reference
- Diet Reference
- Thinai
- Paruva kaalam
- Mode of onset Reference
- Mukkuttra Verubadukal
- Ezhu Udarkattugal Reference
- Envagai Thervugal Reference
- Neerkuri Neikkuri Reference
- Aetiology Reference
- Results after Treatment Reference
- The observations recorded with the above said criteria were given in the tabular form.

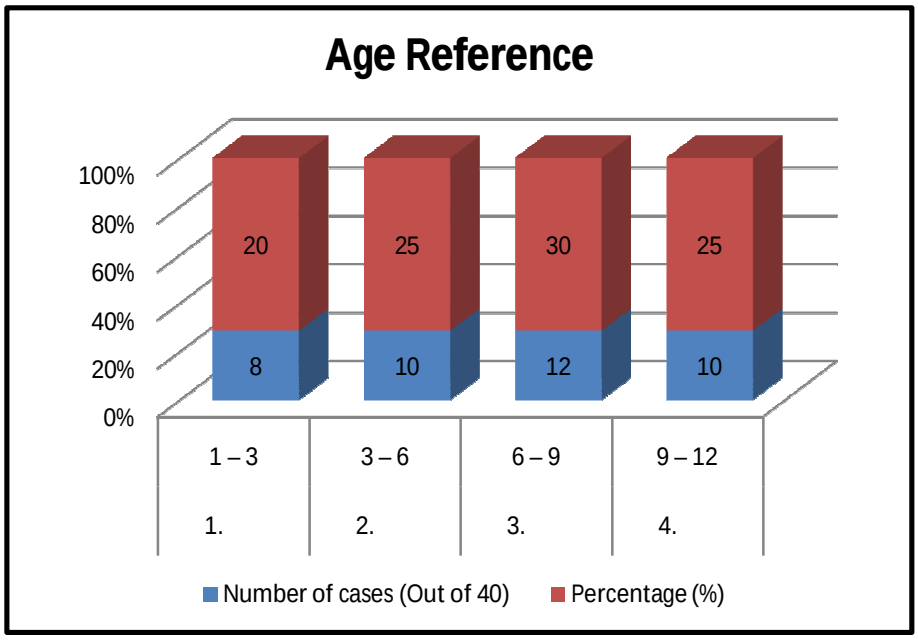
1. AGE REFERENCE

2. A

Sl. No.	Age	Number of cases (Out of 40)	Percentage (%)
1.	1 – 3	8	20
2.	3 – 6	10	25
3.	6 – 9	12	30
4.	9 – 12	10	25

Inference:-

The percentage was highest in the age group 6 – 12, the percentage was 30% percentage between the age 3 – 6 and 9 – 12 was 25% and age 1 – 3 was 20%.



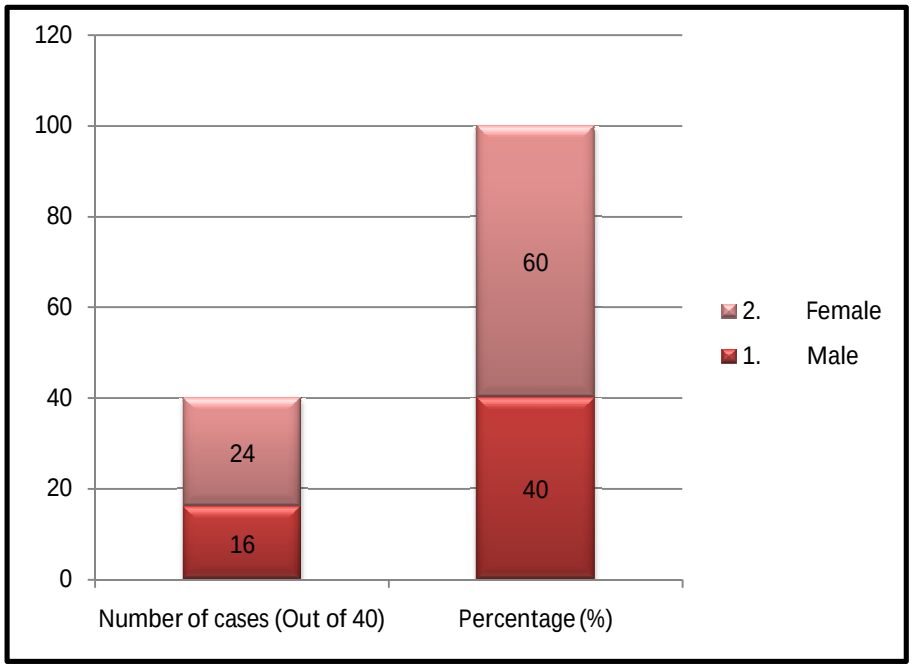
2. SEX REFERENCE

Sl. No.	Sex	Number of cases (Out of 40)	Percentage (%)
1.	Male Children	16	40
2.	FemaleChildren	24	60

Inference:-

Out of 40 patients 16 were male children and 24 were female children.

SEX REFERENCE



3.RELIGION REFERENCE

Sl. No.	Religion	Number of cases (Out of 40)	Percentage (%)
1.	Hindu	29	72.5
2.	Christian	3	7.5
3.	Muslim	8	20

Inference:-

In 40 cases 72.5% of cases were Hindu 7.5% were Christian, 20% were Muslim

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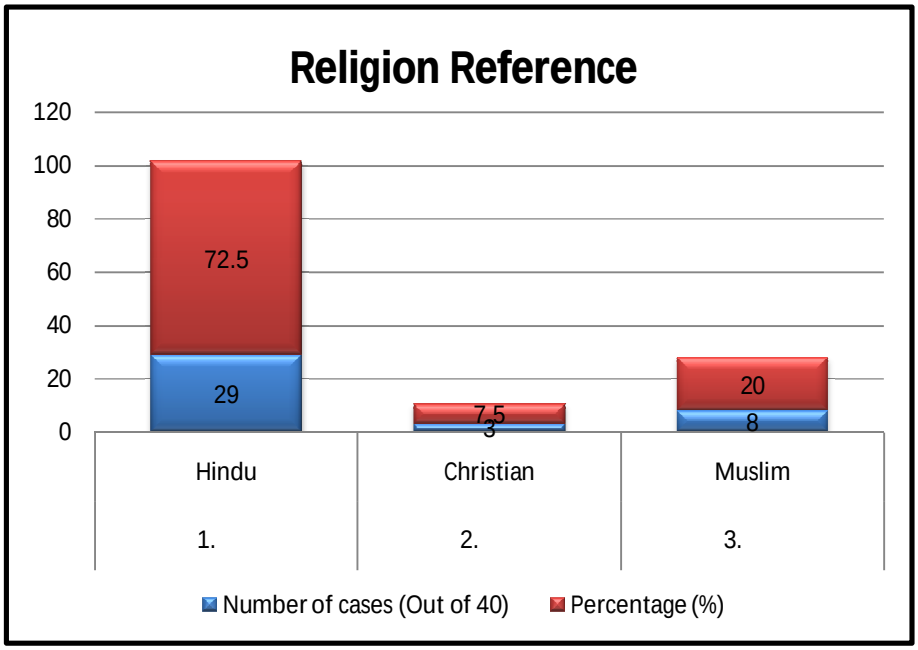


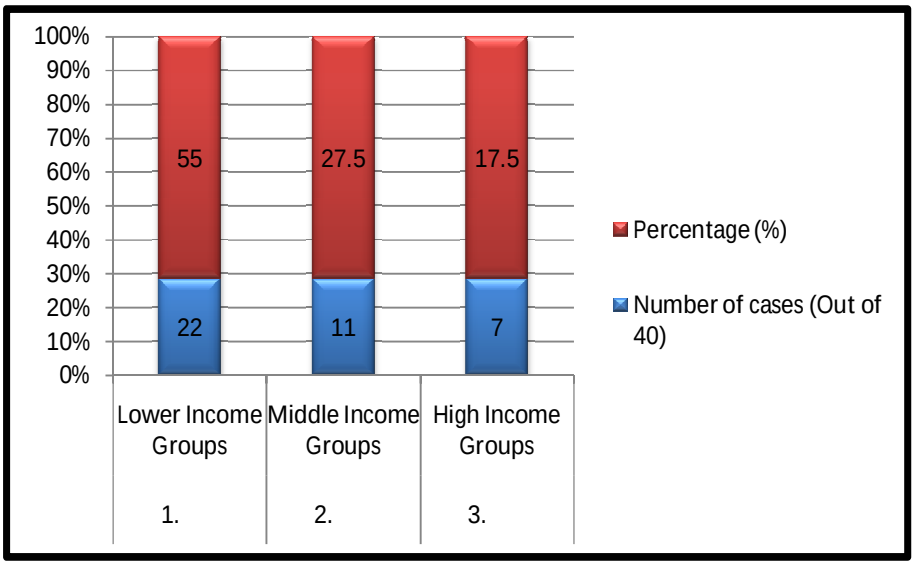
4. SOCIO ECONOMIC STATUS

Sl. No.	Socio – economic status	Number of cases (Out of 40)	Percentage (%)
1.	Lower Income Groups	22	55
2.	Middle Income Groups	11	27.5
3.	High Income Groups	7	17.5

Inference:-

Out of 40 patients 55% of cases were lower, 27.5% of cases were middle and 17.5% of cases were rich.

SOCIO ECONOMIC STATUS

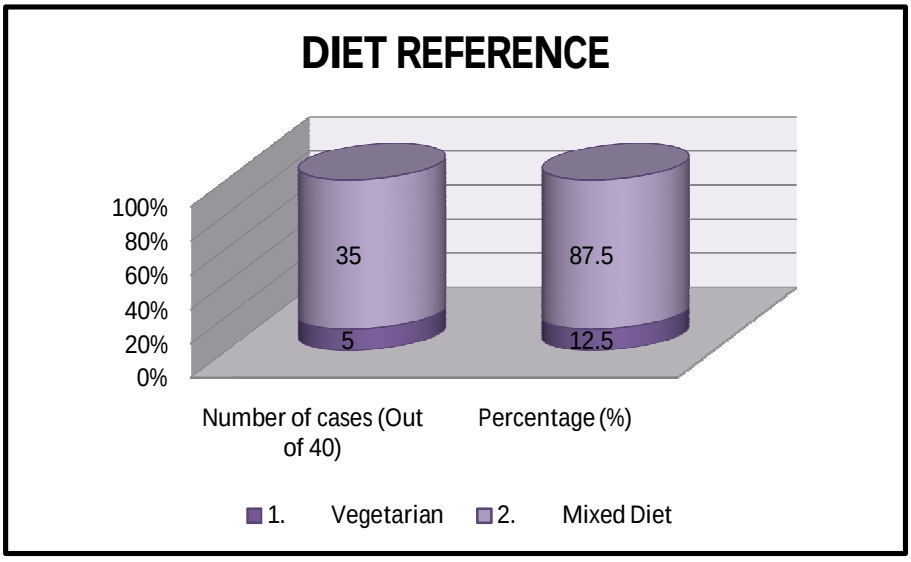


5. DIET REFERENCE

Sl. No.	Diet Habit	Number of cases (Out of 40)	Percentage (%)
1.	Vegetarian	5	12.5
2.	Mixed Diet	35	87.5

Inference:-

Out of 40 patients 12.5% of cases were vegetarian diet and 87.5% of cases were mixed diet.

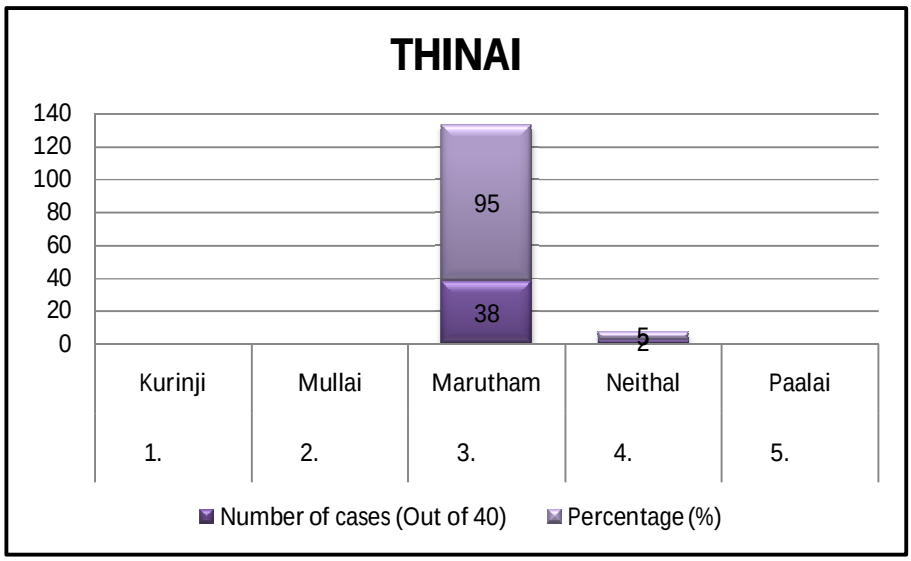


6. THINAI

Sl. No.	Thinai	Number of cases (Out of 40)	Percentage (%)
1.	Kurinji	-	-
2.	Mullai	-	-
3.	Marutham	38	95
4.	Neithal	2	5
5.	Paalai	-	-

Inference:-

Out of 40 patients 95% of cases belongs to Marutham and 5% of cases belongs to Neithal.



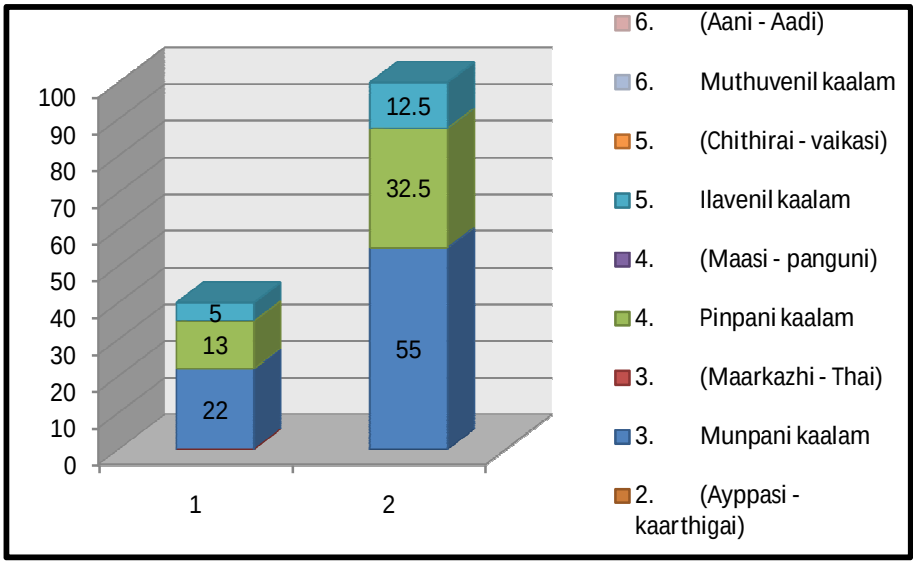
7. PARUVA KAALAM

Sl. No.	Paruvakalam	Number of cases (Out of 40)	Percentage (%)
1.	Kaar kaalam (Aavani – Purataasi)	-	-
2.	Koothir kaalam (Ayppasi - kaarthigai)	-	-
3.	Munpani kaalam (Maarkazhi - Thai)	22	55
4.	Pinpani kaalam (Maasi - panguni)	13	32.5
5.	Ilavenil kaalam (Chithirai - vaikasi)	5	12.5
6.	Muthuvenil kaalam (Aani - Aadi)	-	-

Inference:-

According to Paruvakaalam high incidence of 55% of cases in Munpani kaalam, 32.5% of cases in Pinpani kaalam and 12.5% of cases in Ilavenil kaalam.

PARUVA KAALAM

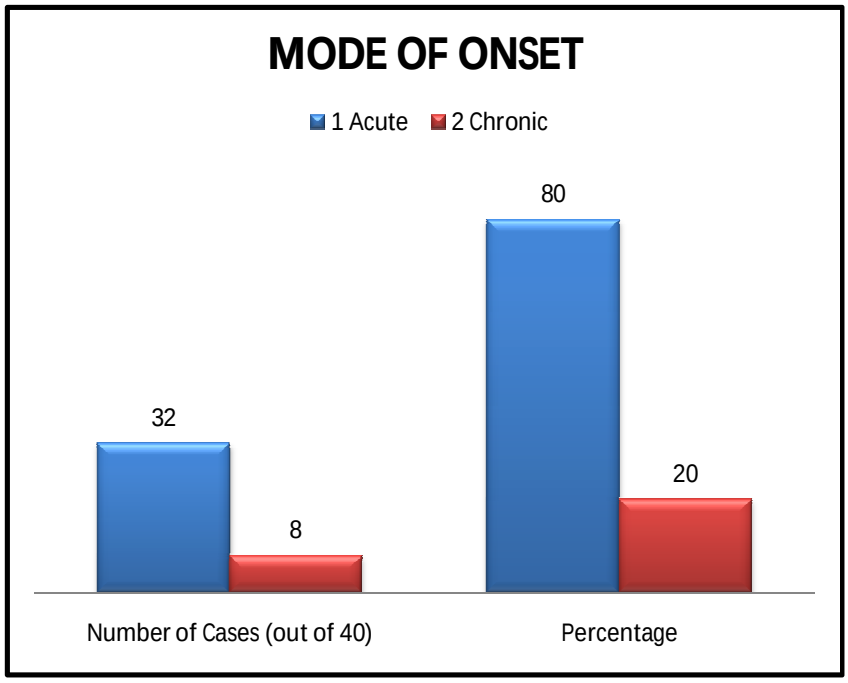


8. MODE OF ONSET

Sl.No.	Mode of Onset	Number of Cases (out of 40)	Percentage
1	Acute	32	80
2	Chronic	8	20

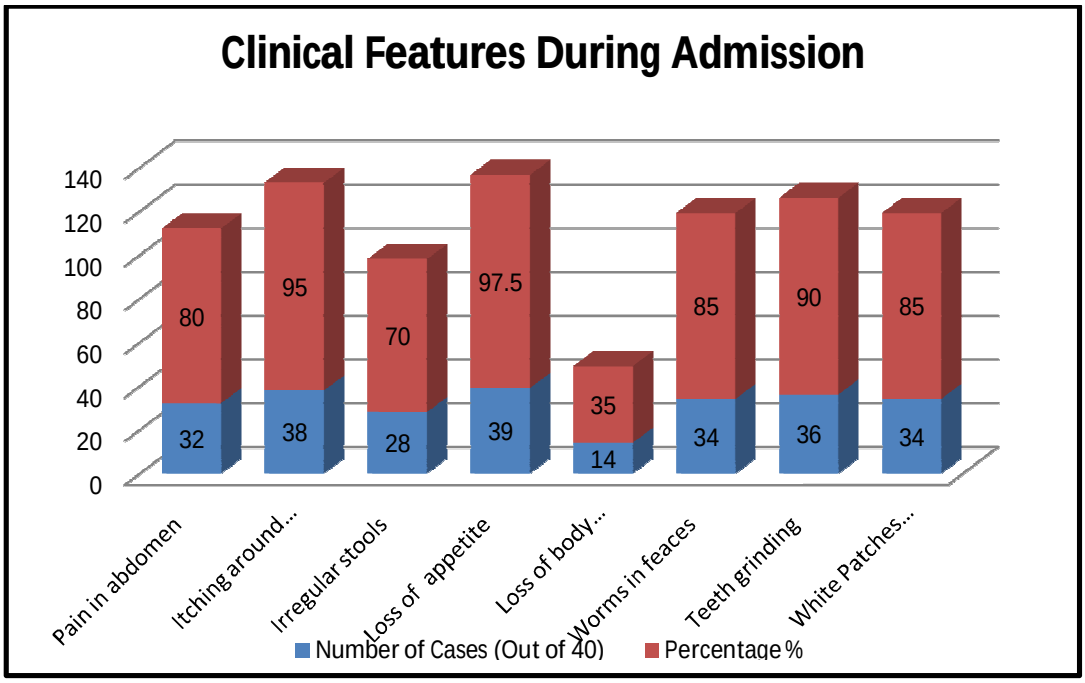
Inference

Out of 40 Cases 80% of Cases had acute onset of symptoms and 20% of cases had chronic onset of symptoms.



9. CLINICAL FEATURES DURING ADMISSION

Sl.No	Clinical Features	Number of Cases (Out of 40)	Percentage %
1	Pain in abdomen	32	80
2	Itching around the anus	38	95
3	Irregular stools	28	70
4	Loss of appetite	39	97.5
5	Loss of body weight	14	35
6	Worms in feaces	34	85
7	Teeth grinding	36	90
8	White Patches on skin	34	85



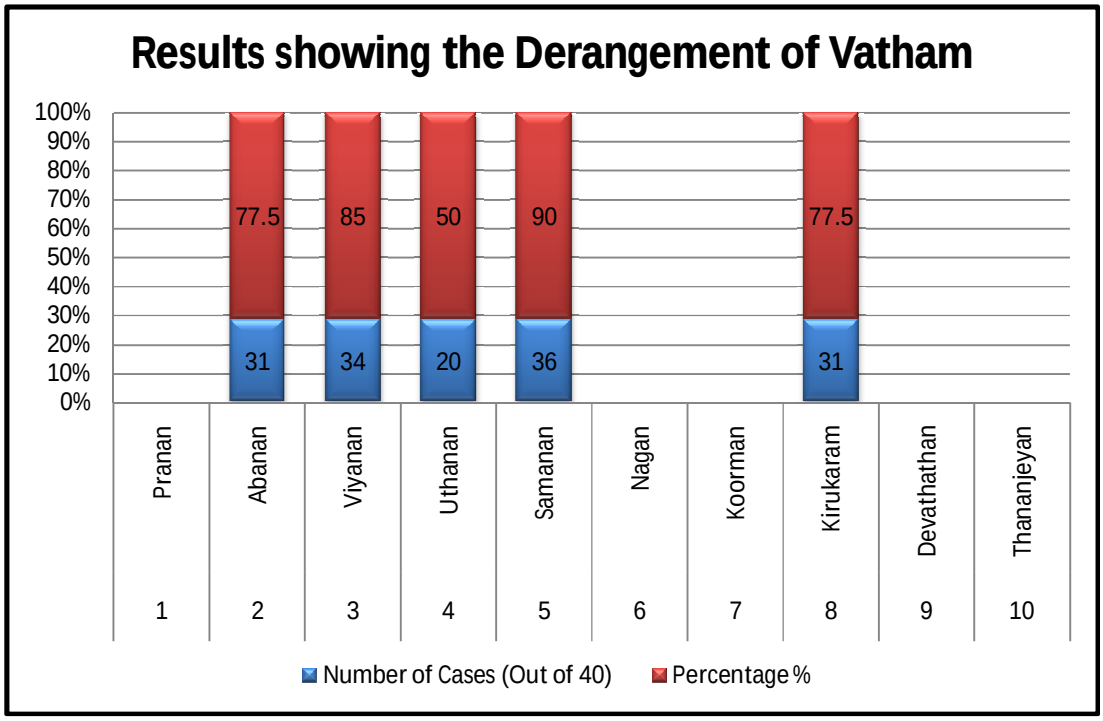
Inference:

- Pain in abdomen was present in 32 cases (80%)
- Itching around the anus was present in 38 cases (95%)
- Irregular stools was present in 28 cases (70%)
- Loss of appetite was present in 39 cases (97.5%)
- Loss of body weight was present in 14 cases (35%)
- Worms in faeces was present in 34 cases (85%)
- Teeth grinding was present in 36 cases (90%)
- White Patches on skin was present in 34 cases (85%)

10. THIRIDHOSHA REFERENCE

RESULTS SHOWING THE DERANGEMENT OF VATHAM

Sl.No	Clinical Features	Number of Cases (Out of 40)	Percentage %
1	Pranan	-	-
2	Abanan	31	77.5
3.	Viyanan	34	85
4	Uthanan	20	50
5	Samanan	36	90
6	Nagan	-	-
7	Koorman	-	-
8	Kirukaram	31	77.5
9.	Devathathan	-	-
10.	Thananjeyan	-	-

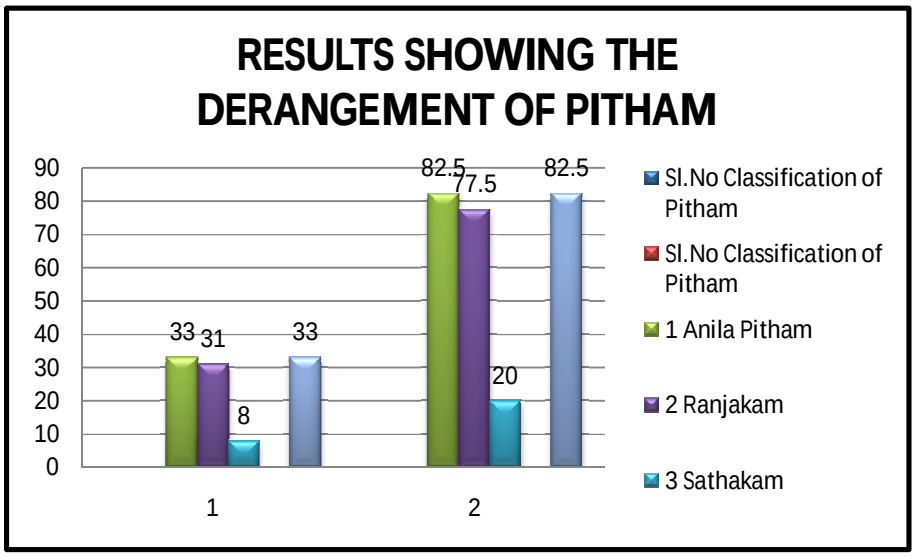


Inference

- Derangement of Abanan was observed in 31 cases (77.5%)
- Derangement of Viyanan was observed in 34 cases (85%)
- Derangement of Uthanan was observed in 20 cases (50%)
- Derangement of Samanan was observed in 36 Cases (90%)
- Derangement of Kirukaran was observed in 31 Cases (77.5%)

RESULTS SHOWING THE DERANGEMENT OF PITHAM

Sl.No	Classification of Pitham	No. Of Cases (Out of 40)	Percentage %
1	Anila Pitham	33	82.5
2	Ranjakam	31	77.5
3	Sathakam	8	20
4	Aalosakam	-	-
5	Prasagam	33	82.5

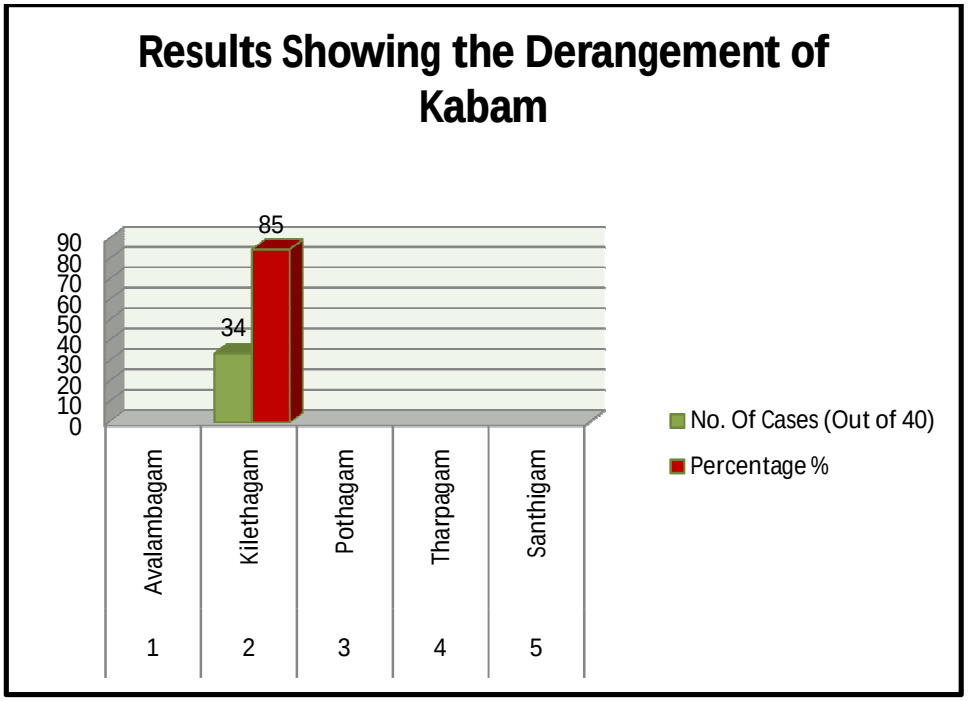


Inference

- Derangement of Anila Pitham was observed in 33 cases (82.5%)
- Derangement of Ranjakam was observed in 31 cases (77.5%)
- Derangement of sathakam was observed in 8 cases (20%)
- Derangement of Prasagam was observed in 33 cases (82.5%)

RESULTS SHOWING THE DERANGEMENT OF KABAM

Sl.No	Classification of Kabam	No. Of Cases (Out of 40)	Percentage %
1	Avalambagam	-	-
2	Kilethagam	34	85
3	Pothagam	-	-
4	Tharpagam	-	-
5	Santhigam	-	-

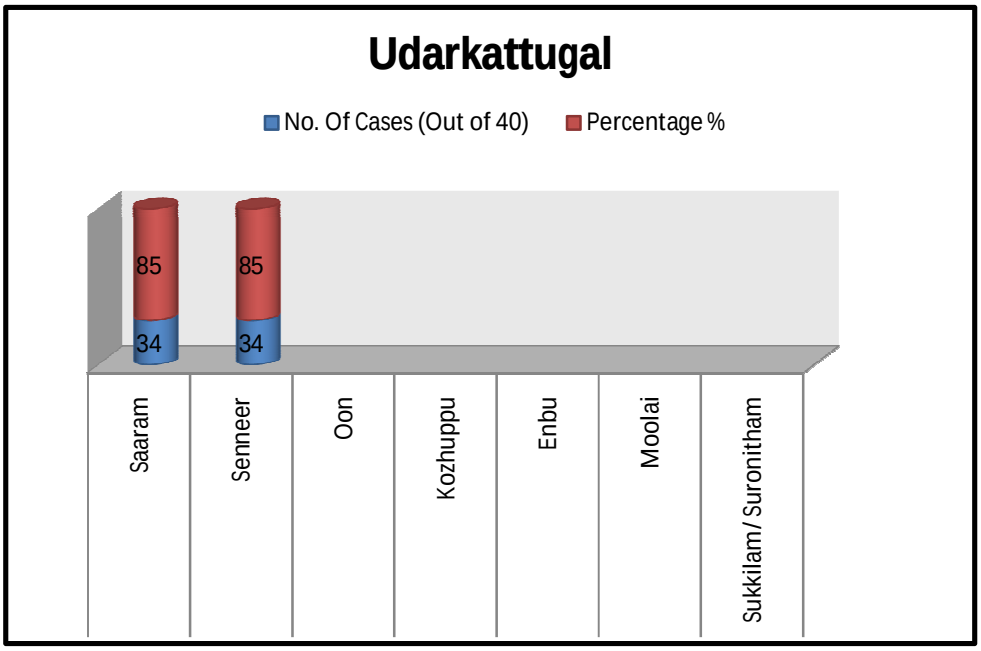


Inference

- Derangement of Kilethagam was observed in 34 cases (85%)

11. EZHU UDARKATTUGAL

Sl.No	Udarkattugal	No. Of Cases (Out of 40)	Percentage %
1	Saaram	34	85
2	Senneer	34	85
3	Oon	-	-
4	Kozhuppu	-	-
5	Enbu	-	-
6	Moolai	-	-
7	Sukkilam/ Suronitham	-	-



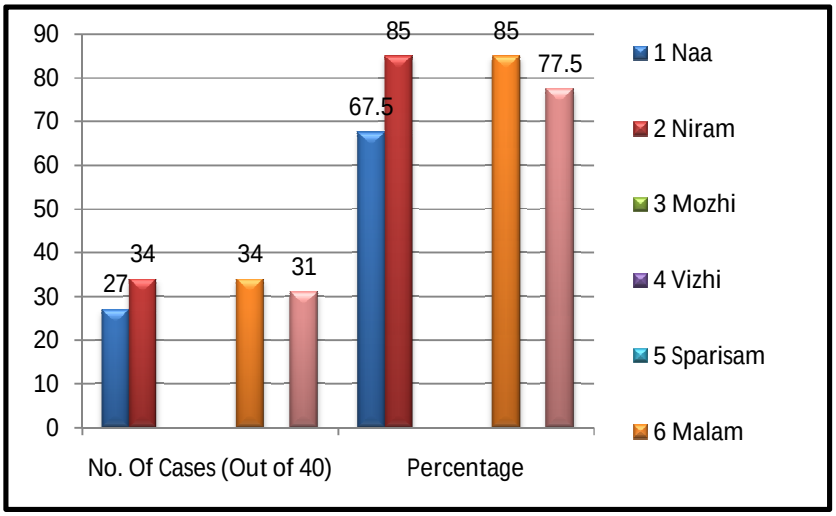
Inference

- Saaram was affected in 34 cases (85%)
- Senneer was affected in 34 cases (85%)

12. **ENVAGAI THERVUGAL REFERENCE**

Sl.No	Envagai Thervugal	No. Of Cases (Out of 40)	Percentage
1	Naa	**27**	**67.5**
2	Niram	**34**	**85**
3	Mozhi	-	-
4	Vizhi	-	-
5.	Sparisam	-	-
6.	Malam	**34**	**85**
7	Moothiram	-	-
8	Naadi (Vatha Kalappu)	**31**	**77.5**

ENVAGAI THERVUGAL REFERENCE

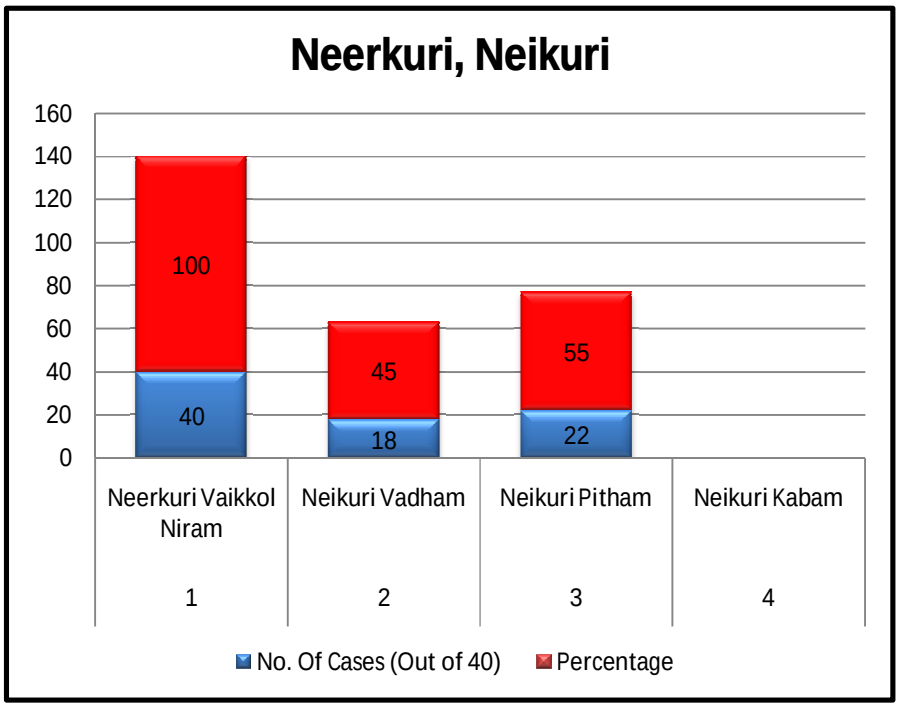


Inference:

- ❖ Naa was affected in 27 cases (67.5%)
- ❖ Niram was affected in 34 cases (25%)
- ❖ Malam was affected in 34 cases (85%)
- ❖ Naadi (Vathakalappu) was observed in 31 cases (77.5%)

13. NEERKURI, NEIKURI REFERENCE

Sl.No	Neerkuri, Neikuri	No. Of Cases (Out of 40)	Percentage
1	Neerkuri Vaikkol Niram	40	100
2	Neikuri Vadham	18	45
3	Neikuri Pitham	22	55
4	Neikuri Kabam	-	-

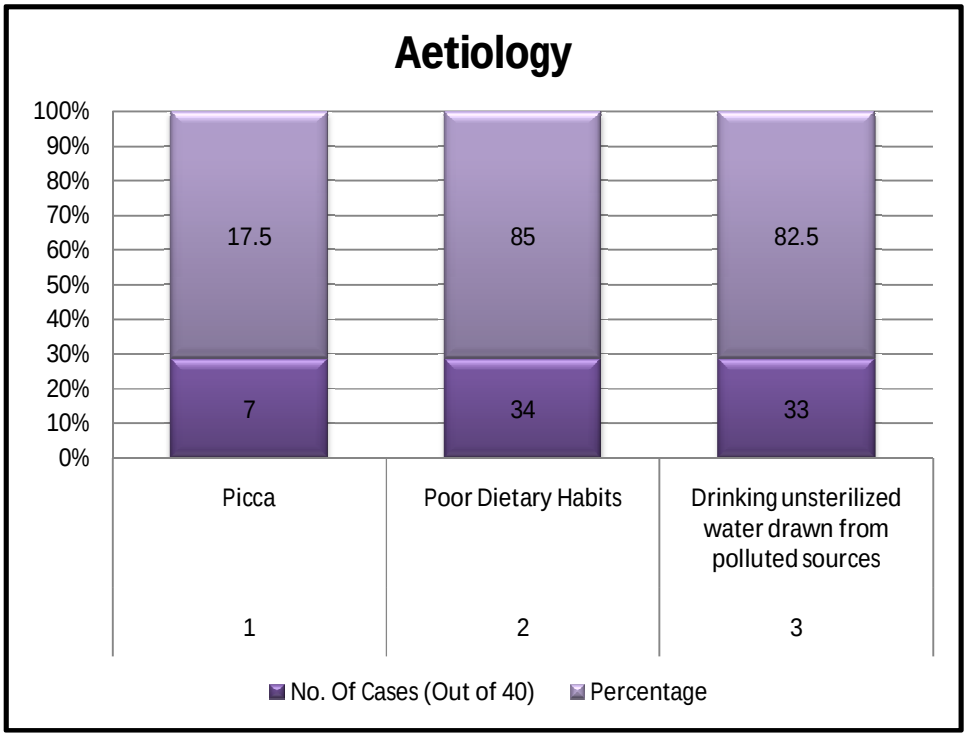


Inference

In all the 40 cases the Neerkuri was vaikkol Niram (100%). In 18 cases the Neikuri was Vatha Neer (45%). In 22 cases the Neikuri was pitha Neer (55%)

14. AETIOLOGY REFERENCE

Sl.No	AETIOLOGY REFERENCE	No. Of Cases (Out of 40)	Percentage
1	Picca	7	17.5
2	Poor Dietary Habits	34	85
3	Drinking unsterilized water drawn from polluted sources	33	82.5

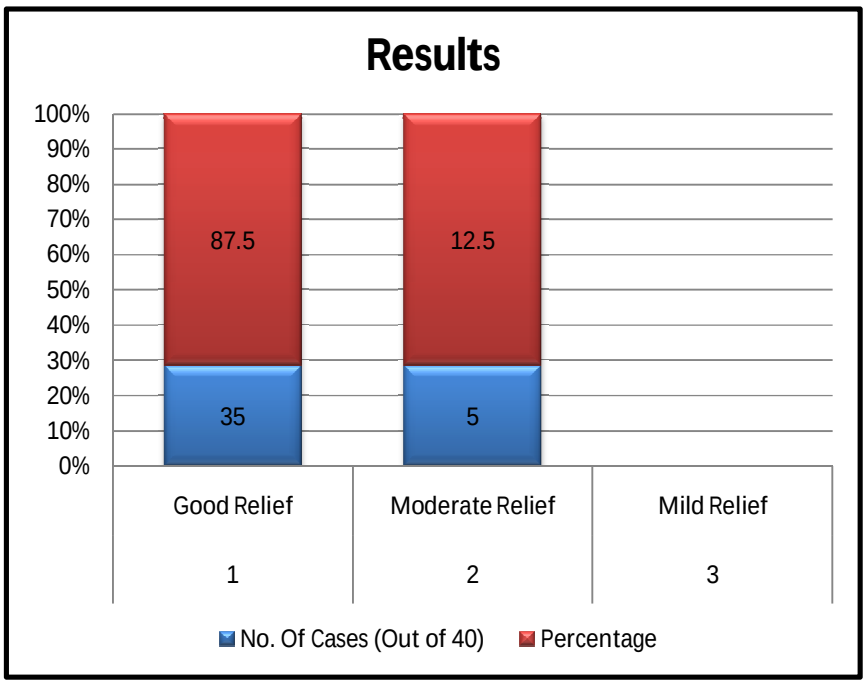


Inference

- Picca was the Aetiological Factor 7 Cases (17.5%)
- Poor dietary habits was the Aetiological factor in 34 cases (85%)
- Drinking unsterlised water drawn from polluted sources was the aetiological factor in 33 cases 82.5%

15. RESULTS AFTER TREATEMENT

Sl.No	Results	No. Of Cases (Out of 40)	Percentage
1	Good Relief	35	87.5
2	Moderate Relief	5	12.5
3.	Mild Relief	-	-



Inference

- Good Relief was observed in 35 patients (87.5%)
- Moderate Relief was observed in 5 patients (12.5%)

Out Patients Record

S. No	O.P. No	Name	Age	Sex	No.of days treated	Remarks
1.	109354	Esakkiraj Tharan	9	Mc	3	Good
2.	109296	Muthu Gomathi	9	Fc	3	Good
3.	109774	Thahira	3 ½	Fc	3	Good
4.	112649	Siva Ganesh	7	Mc	3	Moderate
5.	7476	Venkatesh	4 ½	Mc	3	Good
6.	7764	Hiba	10	Fc	3	Good
7.	8096	Sriram	8	Mc	3	Good
8.	9193	Abdul Raheem	3	Mc	3	Good
9.	9582	Ramesh	6	Fc	3	Good
10.	9876	Indu	10	Fc	3	Good
11.	10358	Samreena	9	Fc	3	Good
12.	10374	Babu	5	Mc	3	Good
13.	1148	Anuska	9	Fc	3	Good
14.	12194	Subiksha	3	Fc	3	Good
15.	12451	Venkat	12	Mc	3	Good
16.	12470	Manisankar	12	Mc	3	Good
17.	13387	Nazrin	3	Fc	3	Good
18.	13460	Afrin	5	Fc	3	Good
19.	14761	Rani	3	Fc	3	Good
20.	15327	Tharani	5	Mc	3	Moderate

INVESTIGATIONS OF 20 IN PATIENTS OF MASARAI PUZHU																
Sl. No	IP No	Name of the patient	**Hematological Investigations**													
			Before Treatment							**After Treatment**						
			TC /cumm	DC%			ESR mm		Hb%	TC/ cumm	DC %			ESR mm		Hb%
				P	L	E	1/2 hr	1 hr			P	L	E	1/2hr	1 hr	
1	157	Katheeja 8FC	8,500	44	51	5	6	12	11.3	8,300	46	53	1	5	11	11.4
2	233	Sreemathy 11FC	8,800	66	30	4	7	13	12.9	8,800	68	30	2	6	12	12.9
3	260	Kamatchi 7FC	8,200	44	39	17	4	8	11.5	8,100	54	44	2	3	7	11.6
4	365	Mari sankar 10 MC	8,600	58	40	2	5	9	13	8,600	58	40	2	4	8	13
5	424	Renukha 3FC	7,500	50	48	2	6	11	12	7,400	50	48	2	5	10	12
6	436	Archana 5Fc	8,000	60	36	4	7	13	10.5	8,000	64	36	-	6	12	10.5
7	528	Gipson 31/2Mc	7,600	66	32	2	8	15	11.6	7,500	66	33	1	7	14	11.8
8	643	Narisa 10Fc	7,300	64	32	4	9	18	12.3	7,200	66	32	2	8	16	12.5
9	657	Salman 11Mc	7,200	55	41	4	6	12	10.4	7,100	57	41	2	5	10	10.4
10	659	Haribabu 9mc	8,600	58	38	4	5	11	11.6	8,500	60	38	2	5	10	11.6
11	741	Sandhana Priya 3Fc	9,000	50	48	2	6	13	10.9	8,800	51	49	-	6	12	11
12	765	Vishalini 12Fc	9,200	44	51	5	8	16	10.5	9,000	46	53	1	7	14	11
13	833	Sanjay 9Mc	8,600	60	39	1	8	17	11	8,400	60	39	1	8	16	11
14	955	Pavithra 3Fc	8,200	70	26	4	9	18	10	8,200	72	26	2	6	12	10.2
15	1011	Levisha Lourd 4Fc	8,400	68	30	2	6	12	9.8	8,200	70	30	-	5	10	9.8
16	1053	Kanagalakshmi 8Fc	8,800	72	25	3	4	8	11.4	8,800	73	25	2	3	6	11.6
17	1078	Keerthana 8Fc	7,800	50	48	2	5	9	12.2	7,600	50	50	-	4	8	12.2
18	1131	Jejas 3 Mc	7,000	64	32	4	3	7	11.3	8,800	66	32	2	3	6	11.3
19	1147	Ramesh 10Mc	8,500	65	33	2	6	9	10.6	8,300	65	34	1	4	8	10.6
20	1146	Nisha 3Fc	7,800	55	40	5	5	10	10.2	7,600	57	41	2	4	8	10.2

INVESTIGATION OF 20 IN PATIENTS OF MASARAI PUZHU														
Sl.No	IP No	Name of the patient	Urine Analysis						Motion Analysis					
			Before Treatment			After Treatement			Before Treatment			After Treatment		
			Alb	Sug	Dep	Alb	Sug	Dep	Ova	Cyst	Occult blood	Ova	Cyst	Occult blood
1	157	Katheeja 8FC	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
2	233	Sreemathy 11FC	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
3	260	Kamatchi 7FC	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
4	365	Mari sankar 10 MC	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	G.O	Nil	Nil
5	424	Renukha 3FC	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
6	436	Archana 5Fc	Nil	Nil	1-2 Puscells	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
7	528	Gipson 31/2Mc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
8	643	Narisa 10Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
9	657	Salman 11Mc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
10	659	Haribabu 9mc	Nil	Nil	1-2 Puscells	Nil	Nil	NAD	G.O	Nil	Nil	G.O	Nil	Nil
11	741	Sandhana Priya 3Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
12	765	Vishalini 12Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
13	833	Sanjay 9Mc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
14	955	Pavithra 3Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
15	1011	Levisha Lourd 4Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
16	1053	Kanagalakshmi 8Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
17	1078	Keerthana 8Fc	61	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
18	1131	Tejas 3 Mc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
19	1147	Ramesh 10Mc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	Nil	Nil	Nil
20	1146	Nisha 3Fc	Nil	Nil	NAD	Nil	Nil	NAD	G.O	Nil	Nil	G.O	Nil	Nil

In Patients Record								
S. No	**IP No**	**Name**	**Clinical Features**	**Duration of Illness (Month)**	**D.O. A**	**D.O.D**	**No of Days Treated**	**Prognosis**
1	157	Katheeja 8FC	Pain in abdomen, Itching around anus, constipation	1	24.01.16	28.01.16	5	Good
2	233	Sreemathy 11FC	Pain in abdomen, Los of appetite, Itching around anus	1	30.01.16	02.02.16	4	Good
3	260	Kamatchi 7FC	Weight loss, loss of appetite, worms in faeces	2	01.02.16	05.02.16	4	Moderate
4	365	Mari sankar 10 MC	Pain in abdomen, Itching around anus, white patches on face	1	12.02.16	16.02.16	4	Good
5	424	Renukha 3FC	Itching around anus, Teeth grinding, patches on face	1	17.02.16	20.02.16	4	Good
6	436	Archana 5Fc	Pain in abdomen, loss of appetite, worm in faeces	1	18.02.16	21.02.16	4	Good
7	528	Gipson 31/2Mc	Loss of appetite, weight loss, Itching around anus.	2	27.02.16	01.03.16	4	Good
8	643	Narisa 10Fc	Pain in abdomen, Itching around the anus, worm in faeces.	1	09.03.16	12.03.16	4	Good
9	657	Salman 11Mc	Pain in abdomen, loss of appetite, Itching around anus.	2	10.03.16	14.03.16	4	Good
10	659	Haribabu 9mc	Weight loss, Teeth grinding, Patches on face	2	10.03.16	14.03.16	4	Moderate

11	741	Sandhana Priya 3Fc	Itching around anus, Constipation, weight loss.	1	18.03.16	21.03.16	4	Good
12	765	Vishalini 12Fc	Pain in abdomen, loss of appetite, Worms in faces	1	21.03.16	24.03.16	3	Good
13	833	Sanjay 9Mc	Weight loss, Teeth grinding, Patches on face	1	28.03.16	31.03.16	4	Good
14	955	Pavithra 3Fc	Pain in abdomen, Itching around the anus, constipation	2	07.04.16	09.04.16	3	Good
15	1011	Levisha Lourd 4Fc	Itching around the anus, teeth grinding, white patches on face.	3	14.04.16	18.04.16	4	Moderate
16	1053	Kanagalakshmi 8Fc	Weight loss, teeth grinding, Patches on face	2	19.04.16	22.04.16	4	Good
17	1078	Keerthana 8Fc	Weight loss, loss of appetite, worm in faeces	2	21.04.16	24.04.16	4	Good
18	1131	Jejas 3 Mc	Pain in abdomen, Itching around anus, constipation	1	27.04.16	30.04.16	4	Good
19	1147	Ramesh 10Mc	Itching around anus, Teeth grinding, patches on face	3	29.04.16	02.05.16	4	Good
20	1146	Nisha 3Fc	Loss of appetite, weight loss, Itching around anus	1	29.04.16	02.05.16	4	Moderate

DISCUSSION

- Helminthic infestations contribute significantly to global burden of disease in children especially in the tropical and subtropical regions. Most helminthic are potentially pathogens to human beings if these are present in sufficient number. They may cause disease in children by the following mechanisms.
    1. By depriving the nutrients of the host.
    2. By sucking the blood from host
    3. By interfering with the body function mechanically.
- Masarai Puzhu is considered as the commonest infection affecting the children
- Regarding Masarai Puzhu 16 were male children (40%) 24 were female children (60%)
- Regarding Masarai Puzhu 8 patients were between the age group 1-3 (20%) 10 patients between the age group 3-6 (25%) 12 patients were between the age group 6-9 (30%) 10 patients were between the age group 9-12(25%)
- Regarding Masarai Puzhu 29 patients were Hindus. 3 Patients were Christians and 8 patients were muslims.
- Regarding Masarai Puzhu 22 patients were from poor Socio-economic status (55%) 11 were from middle socio - economic status (27.5%) 7 were from rich economic status (17.5%)
- Regarding Masarai Puzhu 5 patients were vegetarians (12.5%), 35 patients were Non - vegetarians (87.5%)
- Regarding Masarai Puzhu 38 patients were from Marutham (95%) 2 patients were from Neithal (5%)
- Regarding Masarai Puzhu 22 patients admitted during munpanikaalam (55%) 13 patients were admitted during pinpanikaalam (32.5%) 5 patients were admitted during Ilavenil Kaalam (12.5%).
- Regarding Masarai Puzhu 32 patients had acute onset (80%) 8 patients had chronic onset (20%).

Regarding Masarai Puzhu Among 40 patients.

- Pain in abdomen was present in 32 cases (80%)
- Itching around the anus was present in 38 cases (95%)
- Irregular stools was present in 28 cases (70%)
- Loss of appetite was present in 39 cases (97.5%)
- Loss of body weight was present 14 cases (35%)
- Worms in faeces was present in 34 cases (85%)
- Teeth grinding was present in 36 cases (90%)
- White patches on skin was present in 34 cases (85%)

Regarding Masarai Puzhu Among 40 patients

- Derangement of Abanan was observed in 31 cases (77.5%)
- Derangement of Viyanan was observed in 34 cases (85%)
- Derangement of Uthanan was observed in 20 cases (50%)
- Derangement of Samanan was observed in 36 cases (90%)
- Derangement of Kirukaran was observed in 31 cases (77.5%)

Regarding Masarai Puzhu among 40 patients

- Derangement of Anilapitham was observed in 33 cases (82.5%)
- Derangement of Ranjakam was observed in 31 cases (77.5%)
- Derangement of Sathakam was observed in 8 cases (202%)
- Derangement of Prasagam was observed in 33 cases (82.5%)

Regarding Masarai Puzhu among 40 patients

- Derangement of Kilethagam was observed in 34 cases (85%)
- Regarding Giardiasis among 40 patients.
- Saaram was affected in 34 cases (85%)
- Senneer was affected in 34 cases (85%)

Regarding Masarai Puzhu among 40 patients

- Naa was affected in 27 cases (67.5%)
- Niram was affected in 34 cases 85%
- Malam was affected in 34 cases 85%

- Naadi (Vatha Kalappu) was seen in 31 cases (77.5%)
- The Colour of the Urine in all cases was Vaikkol Niram
- In all cases the Urine was Vatha and Pitha neer.

Regarding Masarai Puzhu among 40 patients

- Picca was the aetiological factor in 7 cases (17.5%)
- Poor dietary was the aetiological factor in 34 cases (85%)
- Drinking unsterilized water drawn from polluted sources was the aetiological factor in 33 cases (82.5%)

RESULTS AND OBSERVATION

Reference of Results

In case of **Masarai Puzhu** good response of this trial drug was observed in 35 cases (87.5) moderate response was observed in 5 patients (12.5%)

This study reveals that with the treatment of trial drug maximum number of cases showed good results.

The trial Medicine for the treatment of “KUDAL KIRUMI - MASARAI PUZHU” was ‘NAYURUVI NEI’ Out of 40 patients treated with NAYURUVI NEI good results was found in 87.5% of cases moderate results was found in 12.5% of cases based on the evidence of motion examination at the time of admission and discharge. The “NAYURUVI NEI” has got more effective anthelmintic action on MASARAI PUZHU

Pharmacological studies were carried out in the department of pharmacology KM college of pharmacy. The internal medicine. “NAYURUVI NEI’” had very good anthelmintic and very good anti spasmodic action.

Bio-Chemical analysis was carried out in the Department of Biochemistry Governemnt Siddha Medical College, Palayamkottai.

Anti-microbial actions were carried out in Malar Microbiological Laboratory, Tirunelveli.

TREATMENT:

Out of 40 patients treated with “NAYURUVI NEI” 87.5% of cases has cured and 12.75 had moderate relief. Based on the laboratory investigation at the time of admission and discharge the “NAYARUVI NEI” has got more effective anthelmintic action for MASARAI PUZHU.

SUMMARY

Infection is most prevalent in tropical and subtropical climates due to lack of sanitary facilities or the use of human faeces as fertilizer (night soil). Infection may also acquired through ingestion of contaminated low worm load. Clinical manifestations occur due to intestinal complications.

40 patients from both sexes of different age group were selected and a careful detailed history was elicited and diagnosis was made on both the Siddha and Modern Pathology. Among 40 patients 16 were male children and 24 were female children.

The patients were treated with “NAYURUVI NEI” internally in the inpatient ward of postgraduate Kuzhanthai Maruthuvam department.

Modern Investigations is also be done. Some of the patients varied in sex and in all other aspects such as socio economic status. I took a statistics with the aid of details mentioned in the case sheet.

Pharmacological studies were carried out in the department of pharmacology, KM College of Pharmacy. The internal medicine “Nayuruvi Nei” had very good anthelmintic. action and very good anti-spasmodic action.

Microbiological actions of NAYURUVI NEI shows sensitive against E.coli and klebseilla

The detailed clinical analysis of the trial drug is done in the Bio-Chemical laboratory in Government Siddha Medical College, Palayamkottai.

During the course of treatment no signs of complications were reported and recorded.

On the basis of clinical results achieved with the evidence of faeces examination at the time of admission and discharge. The “NAYURUVI NEI” was proved to be more effective in anthelmintic action for Giardiasis where more than 87.5% of the cases were completely relieved. 12.5% of cases were relieved satisfactory.

CONCLUSION

In this clinical study results were found to be satisfactory. Almost the clinical features of Masarai Puzhu correlates with Giardiasis.

The results revealed that the predisposing factor for Masarai Puzhu were contaminated food, unhygienic habits, lack of environmental sanitation and poor socio-economic condition of the affected person.

The trial medicine Nayuruvi Nei is effective and given good results in the present study. Research findings showed that 87.5% of cases have been completely cured and 12.5% of cases showed moderate response.

Microbiological actions of NAYURUVI NEI shows sensitive against E.coli and klebseilla

The preparation and administration of the trial drug was very simple, economically viable, easily available. Clinically the drugs are free from adverse effects.

So it is concluded that the drug “NAYURUVI NEI” is effective in the treatment of “KUDAL KIRUMI - MASARAI PUZHU”

The Tamil Nadu Dr.M.G.R. Medical University

#69, Anna salai, Guindy, Chennai-600 032.

This certificate is awarded to

Dr./~~Mr.~~/~~Ms.~~ Y. MARIA THERESA

for participating as ~~Resource Person~~ / Delegate in the Fifteenth Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post Graduates & Researchers

Organised by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University from 23.06.2014 to 27.06.2014.

Dr. N. KABILAN M.D. (Siddha) Reader, Dept. of Siddha	**Dr. JHANSI CHARLES,** M.D. Registrar	**Prof. Dr. D. SHANTHARAM,** M.D., D.Diab., Vice-Chancellor

GOVT. SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

SCREENING COMMITTEE

Candidate Reg. No: 32131400 6

Department: KUZHANTHAI MARUTHUVAM – BRANCH IV

This is to certify that the dissertation topic An observational clinical study of "KUDAL KIRUMI - MASARAI PUZHU" with the efficacy of "NAYURUVI NEI" has been approved by the screening committee.

Branch	Department	Name	Signature
1	Pothu Maruthuvam	Dr.S.Aathi Narayanan MD(S).,	
2	Gunapadam	Dr.M.Ravi Chandran MD(S).,Ph.D	1/7/15
3	Sirappu Maruthuvam	Dr.S.Kaniraja MD(S).,	1.7.15
4	Kuzhanthai Maruthuvam	Dr.D.K.Soundararajan MD(S).,	1/7/15
5	Noi Nadal	Dr.S.K.Sasi MD(S).,	1/7/15
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Remarks:

INSTITUTIONAL ETHICAL COMMITTEE,
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CERTIFICATE OF APPROVAL

Address of Ethical Committee	Government Siddha Medical College, Palayamkottai,Tirunelveli, Tamilnadu, India.Pincode- 627002.
Principal Investigator	Dr. Y.MARIA THERESA ,MD(S)-II year, Department of Kuzhanthai Maruthuvam, Reg.No:**321314006**
Guide	Dr.D.K.SOUNDARARAJAN,MD(S), Head of the Department, Dr.K.SHYAMALA,MD(S), Assistant Lecturer, Department of Kuzhanthai Maruthuvam, Govt. Siddha Medical College and Hospital, Palayamkottai. -627002.
Dissertation Topic	An observational clinical study **of "KUDAL KIRUMI-MASARAI PUZHU"** with the efficacy of **NAYURUVI NEI**
Documents Filed	1)Protocol 2) Data Collection Forms 3) Patient Information Sheet 4) Consent form 5)SAE (Pharmacovigilance)
Clinical / Non Clinical Trial Protocol	Clinical Trial Protocol – Yes
Informed Consent Document	Yes
Any Other Document	Case Sheet, Investigation Documents
Date of IEC Approval & its Number	GSMC-II-IEC/2015-Br-IV/06/16.07.2015

We approve the trial to be conducted in its presented form.

The Institutional Ethical Committee expects to be informed about the process report to be submitted to the IEC at least annually of the study, any SAE occurring in the course of the study, any changes in the protocol and submission of final report.

Chairman 16/7/2015
(Prof. Dr. M.Logamanian)

Member Secretary 16/7/15
(Prof.Dr.S.Soundararajan)

(For IAEC / CPCSEA usage)

Proposal number	Y.MARIATHERESA/321314006 MD(S)/IAEC/KMCP/227 2015-2016.
Date first received	: 15.12.2015
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Approval date	: 19.12.2015
Expiry date	: 31.03.2016
Name of IAEC / CPCSEA chairperson	: N.CHIDAMBARANATHAN

Date: 19.12.2015

Signature

I. A. E. C. CHAIRMAN
INSTITUTIONAL ANIMAL ETHICAL COMMITTEE
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19/12/15

CPCSEA NOMINEE
INSTITUTIONAL ANIMAL ETHICS COMMITTEE
K.M. COLLEGE OF PHARMACY
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GOVERNMENT SIDDHA MEDICAL COLLEGE

PALAYAMKOTTAI

Certificate of Botanical Authenticity

Certified the following plant drugs used in Siddha formulation NAYURUVI NEI for the management of KUDAL KIRUMI-MASARAI PUZHU taken up for Post Graduation Dissertation Studies by Dr.Y.Maria Theresa (Reg No.321314006) PG Dept. of Kuzhanthai Maruthuvam are correctly identified and authenticated through Visual Inspection / Organoleptic Characters / Experience, Education and Training Morphology and Taxonomical methods.

S.N	Name	Botanical Name	Family	Parts used
1.	Nayuruvi ellai	Achyranthes aspera	Amaranthaceae	Leaf
2.	Kuppaimeni ellai	Acalypha indica	Euphorbiaceae	Leaf
3.	Kozhinji ellai	Tephrosia purpurea	Fabaceae	Leaf
4.	Thoothuvazhai ellai	Solanum trilobatum	Solanaceae	Leaf
5.	Vasampu	Acorus calamus	Araceae	Rhizome
6.	Chukku	Zingiber officinale	Zingiberaceae	Rhizome
7.	Manjal	Curcuma longa	Zingiberaceae	Rhizome

Station: Palayamkottai,

Date:

Authorized Signature

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Associate Professor
Dept. of Medicinal Botany
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ANNEXURE II

BIO – CHEMICAL ANALYSIS (WITHOUT NEI)

BIO – CHEMICAL ANALYSIS OF NAYURUVI NEI PREPARATION OF THE EXTRACT

5gms of the drug was weighed accurately and placed in 250ml clean beaker Then 50ml of distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It is cooled and filtered in a 100ml volumetric flask and then it is makeup to 100ml with distilled water. This fluid is taken for analysis.

QUALITATIVE ANALYSIS

S.NO	EXPERIMENT	OBSERVATION	INFERENCE
1	**TEST FOR CALCIUM** 2ml of the above prepared extract is taken in a clean test tube. To this add 2ml of 4% Ammonium oxalate solution.	A white precipitate is formed	**Indicates the presence of calcium**
2	**TEST FOR SULPHATE:** 2ml of the extract is added to 5% barium chloride solution.	A white precipitate Is formed	**Indicates the presence of sulphate**
3	**TEST FOR CHLORIDE:** The extract is added with silver nitrate solution	A white precipitate Is formed	**Indicates the presence of chloride**
4	**TEST FOR CARBONATE:** The substance is treated with concentrated Hcl	No brisk Effervessence is formed	Absence of chloride
5	**TEST FOR STARCH:** The extract is added with weak iodine solution.	Blue colour is formed	**Indicates the presence of starch**

6	**TEST FOR IRON FERRIC:** The extract is acidified with Glacial acetic acid and potassium ferro cyanide.	No blue colour is formed	Abseence of ferric iron
7	**TEST FOR IRON FERROUS:** The extract is treated with concentrated Nitric acid and Ammonium thio cyanate solution.	Blood red colour is formed	**Indicates the presence of ferrous iron**
8	**TEST FOR PHOSPHATE:** The extract is treated with Ammonium Molybdate and concentrated nitric acid.	No yellow precipitate is formed	Absence of phosphate
9	**TEST FOR ALBUMIN:** The extract is treated with Esbach's Reagent.	No yellow precipitate is formed	Absence of Albumin
10	**TEST FOR TANNIC ACID:** The extract is treated with ferric chloride.	No colour change	Indicates the absence of Tannic acid

11	**TEST FOR UNSATURATION:** Potassium permanganate solution is added to the extract.	It gets decolourised	**Indicates the presence of unsaturated compound**
12	**TEST FOR THE REDUCING SUGAR:** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts.	colour change occurs	**Presence of reducing sugar**
13	**TEST FOR AMINO ACID:** One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninnydrin is sprayed over the same and dried it well.	Violet colour is formed	**Indicates the presence of Amino acid**
14	**TEST FOR ZINC:** The extract is treated with potassium ferrocyanide.	No white precipitate is formed	Absence of Zinc

The trial drug "Nayuruvi Nei"

- **Calcium**
- **Suphate**
- **Choride**
- **Starch**
- **Ferrous iron**
- **Reducing Sugar**
- **Unsaturated compound**
- **Amino acid**

EVALUATION OF ANTHELMINTIC ACTIVITY OF SIDDHA FORMULATION NAYURUVI NEI

INTRODUCTION

Helminthiasis is among the most important animal diseases inflicting heavy production losses. The disease is highly prevalent particularly in third world countries due to poor management Helminthiasis practices(1) 4. A number of medicinal plants have been used to treat parasitic infections in man and animals.(2,3,4,5)5,6,7, 8 The plants are known to provide a rich source of botanical anthelmintics.(6,7)9,10 The anthelmintic assay was carried as per the method of Ajaiyeoba *et al.(8)*11 with minor modifications. The assay was performed on adult Indian earthworm, *Pheretima posthuma* and *Tubifex tubifex* due to its anatomical and physiological resemblance with the intestinal roundworm parasite of human beings.(9,10,11,12) 12,13,14,15. Because of easy availability, earthworms have been used widely for the initial evaluation of anthelmintic compounds *in vitro (13-17)*16,17,18,19,20. The objective of the present research has to prove traditional anthelmintic use of the siddha formulation nayuruvi nei.

MATERIALS AND METHODS

Worms:

Indian earthworm *Pheretima posthuma*(Annelida) were collected from the water logged areas of soil in madurai. *Tubifex tubifex* (Annelida) were collected from Aquarium of the local market. The average size of *Pheretima posthuma* and *Tubifex tubifex* were 6-8 cm and 1-1.5 cm respectively.They were washed with water to remove dirt.

Chemicals:

_ Piperazine Citrate (Glaxo)

_ Double distilled water

Procedure:

The anthelmintic assay was carried as per the method of Ajayieoba E. O. et al. with minor

Modifications(2)5. The experiments were done on adult Indian earthworm *Pheretima posthuma*

and the aquarium worm,*Tubifex tubifex*,because they belong to same group of Annelida (Mueller, 1774). 20 ml formulations containing three different concentrations, Nayuruvi nei (25, 50 and 100 mg/ml in double distilled water) were prepared and taken in different petridishes and six earthworms (same type) were placed in the solutions respectively. Similarly lump of *Tubifex* worms were placed in the test solutions. All the test solution and standard drug solution were prepared freshly before starting the experiments. Time for paralysis was noted when no movement of any sort could be observed except the worms were shaken vigorously. Time for death of worms were recorded after ascertaining that the worms neither moved when shaken vigorously nor when dipped in warm water at 50°C. Piperazine citrate (10 mg/ml) was used as reference standard while distilled water as the control.(18)21 Three sets of experiments were done statistical significance.

RESULTS

TABLE NO .1.

Anthelmintic activity of NAYURUVI NEI (Mean±SD)

GROUPS	CONC MG/ML	***Pheretima Posthuma*** **Paralyzing Time**	***Pheretima Posthuma*** **Death Time**	***Tubifex tubifex*** **Paralyzing Time**	***Tubifex tubifex*** **Death Time**
NORMAL CONTROL	-	-	-	-	-
NAYURUVI NEI	25	62.86±0.666	83.76±0.666	63.00±2.082	75.39±1.453
NAYURUVI NEI	50	35.33±0.881	63.33±0.881	32.33±0.666	36.33±0.881
NAYURUVI NEI	100	19.33±0.881	40.00±0.577	14.66±0.881	20.66±1.333
PIPERAZINE CITRATE	10	25±1.155	64±0.881	22.66±1.764	45.33±1.202

DISCUSSION

From the above study it was seen that the nayuruvi nei showed dose dependent anti helmintic activity as compared to a standard drug piperazine citrate. The mean paralyzing time of Pheretima posthuma with the dose of 25, 50 and 100 mg/ml were found to be 62.86, 35.33 and 19.33 minutes respectively.In the meantime piperazine citrate at a dose of 10 mg/ml cause paralysis in the above helminth in 25 minutes.The mean death time of Pheretima posthuma with the dose of 25, 50 and 100 mg/ml were found to be 83.76, 63.33 and 40.00 minutes respectively. In the meantime piperazine citrate at a dose of 10 mg/ml cause paralysis in the above helminth in 64 minutes .The mean paralyzing time of *Tubifex tubifex* with the dose of 25, 50 and 100 mg/ml were found to be 63.00, 32.33 and 14.66 minutes respectively.In the meantime piperazine citrate at a dose of 10 mg/ml cause paralysis in the above helminth in 22.66 minutes.The mean death time of *Tubifex tubifex* with the dose of 25, 50 and 100 mg/ml were found to be 75.39,36.33 and 20.66 minutes respectively. In the meantime piperazine citrate at a dose of 10 mg/ml cause death in the above helminth in 45.33 minutes.

CONCLUSION

In this investigation the nayuruvi nei were used to evaluate anthelmintic activity by using the above models. The present study ofnayuruvi nei proves its Anthelmintic property.Current study gives the evidence that it may be a fruitful medicine of tomorrow.Further research is going on to isolate the phytoconstituent for anthelmintic activity.

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SMOOTH MUSCLE RELAXANT ACTIVITY OF SIDDHA PREPARATION NAYURUVI NEI IN SWISS ALBINO MICE

Introduction

The present study was carried out see the effect of siddha preparation nayuruvi nei on muscle relaxant activity.

Material and methods

Animals used

Swiss albino mice of either sex with weighing 18-26 g were used. The animals were maintained on the suitable nutritional and environmental condition throughout the experiment. The animals were housed in polypropylene cages with paddy house bedding under standard laboratory condition for an acclimatization periods of 7 days prior to performing the experiment. The animals were fed with commercially available rat pelleted diet. Water was allowed *ad libitum* under strict hygienic conditions.

Rotarod

The rotarod apparatus consists of a metal rod (3 cm diameter) coated with rubber attached to a motor with the speed adjusted to 2 rotations per minute. The rod is 75 cm in length and is divided into 6 sections by metallic discs, allowing the simultaneous testing of 6 mice. The rod is in a height of about 50 cm above the tabletop in order to discourage the animals from jumping off the roller. Cages below the section serve to restrict the movements of the animals when they fall from the roller. Swiss albino mice underwent a pretest on the apparatus. Only those animals, which had demonstrated their ability to remain on the revolving rod (20 rpm) for 5 min, were used for the test.(1,2,3). Swiss albino mice were divided into four groups consisting of six animals each. Group I served as control which received saline solution , animals of group II received standard drug Diazepam at a dose of (5mg/kg, i.p.) while Group III & IV received the siddha preparation nayuruvi nei at a dose of 15ml/kg and 30 ml/kg, p.o. The animals were placed on the rotating rod and fall off time i.e, when the animal falls from the rotating rod, was recorded, which was taken as grip strength.

Traction test(4)

Placing the forepaws of the mice in a small twisted wire rigidly supported above the bench top did the screening of animal. Normally the mice grasp the wire with the forepaws, and place at least one hind foot on the wire without 5 second when allowed to hang free.The test was conducted on four groups of animals (n=8) that were previously screened, 30 min after the administration of siddha preparation nayuruvi nei, diazepam (5 mg/kg) and saline solution as a vehicle control. Inability to put up at least one hind foot on the wire is counted as negative value.

Statistical analysis

The data obtained in present investigation was subjected to statistical analysis. All results aremexpressed as Mean ± SEM (standard error of mean); Six animals in each group. All statistical comparisons were made by Newmann keuls multiple range tests after conducting one -way ANOVA.

Results and Conclusion

Rotorod test

In this test, siddha preparation nayuruvi nei (15 and 30 ml/kg) both significantly reduced the time spent by the animals on revolving rod when compared to Control ($P<0.05$). The standard drug (diazepam) also showed significant effect when compared to control ($P<0.01$). (Table I).

Traction test

In traction test, siddha preparation nayuruvi nei (15 and 30 ml/kg) both significantly decreases the muscle co-ordination activity of mice compared with Control ($p< 0.05$).(Table II).

The siddha preparation nayuruvi nei (15 and 30 ml/kg) was pharmacologically screened for its muscle relaxant study. The result indicates that siddha preparation nayuruvi nei (15 and 30 ml/kg) possess a significant skeletal muscle relaxant activity in experimental animals. At dose of 15 and 30 ml/kg it showed highly significant skeletal muscle relaxant activity at 30min of duration. Further studies are in progress to isolate the active constituents responsible for this activity. The muscle relaxation may be produced due to

depolarizing blockage of neuromuscular junction.Based on the results of the present study, we conclude that the siddha preparation nayuruvi nei (15 and 30 ml/kg) possess significant skeletal muscle relaxant activity. However, further studies are necessary to find the exact mechanism of skeletal muscle relaxant effect and to isolate the active compound(s) responsible for this pharmacological activity.

Table I: Effect different treatment on duration of time spent on rotarod

Group	Dose	0 minutes	30 minutes
Normal control	10ml/kg saline	330.25 ± 22.85	322.7±24.85
Diazepam	5mg/kg i.p	335.8±24.90	105.4±10.50**
Nayuruvi nei	15ml/kg p.o	320.5±22.80	185.5±14.20*
Nayuruvi nei	30ml/kg p.o	324.6±23.55	210.2±15.80*

Values are expressed in mean± SEM; n=6; *p<0.05, *p<0.01 considered highly significant

Table II: Effect of different treatment on motor co-ordination in mice

Group	Dose	% Response
Normal control	10ml/kg saline	0
Diazepam	5mg/kg i.p	100
Nayuruvi nei	15ml/kg p.o	69*
Nayuruvi nei	30ml/kg p.o	61*

Values are the percentage animals showing negative results;

n = 6; *p< 0.05 compared with control (Chi-square test).

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ANTIMICROBIAL STUDIES

AIM

To study the Anti-microbial action of **Nayurvi Nei** against **E-coli, Klebseilla.**

MEDIUM

Muller Hinton agar

COMPONENTS OF MEDIUM

Beef extract	-	300gms/lit
Agar	-	17gms/lit
Starch	-	1.5gms/lit
Casein Hydroxylate	-	17.5gms/lit
Distilled water	-	1000ml
PH	-	7.6

PROCEDURE

The media was prepared from the components and poured and dried on a petri dish. The organism was streaked on the medium and the test drug (1gm drug in 10ml water) was placed on the medium. This is incubated at 37^{C} for one over night and observed for night and observed for the susceptibility shown up clearance around the drug.

RESULT:

The test drug **Nayurvi Nei** was Moderately sensitive against **E-coli, Klebseilla.**

MALAR MICRO DIAGNOSTIC CENTRE

65,sri Ram Popular Road,Manakavalampillai Nagar,Palayamkottai,
Ph.lab,0462-2583954,Resi,2583955 Mobile 9524591925

Name : Dr.Y.Maria Theresa,MD(S)

Anti Microbial Study

Method : Kirby Bauer

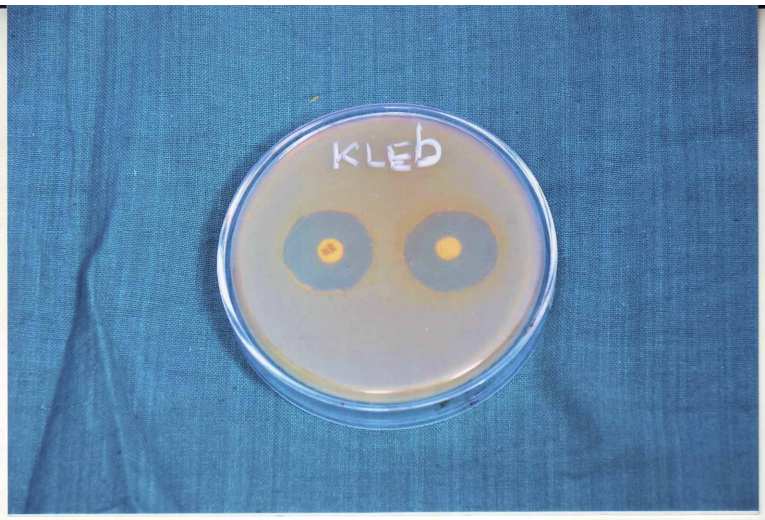
Report

S.No	Drug	Organism	Sensitivity	Zone size of Drug	Zone size of Control (Amikacin)
1.	Nayuruvi Nei	Echerichia coli	Sensitive	18mm	18mm
2.	Nayuruvi Nei	Klebsiella pneumoniae	Sensitive	20mm	20mm

Dr.R.Napoleon,MD.,
Consultant Microbiologist

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample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GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

Certified that Dr. MARIA THERESA. Y

PG SCHOLAR – FINAL YEAR

has successfully participated as a Trainee on the six days of continuing Medical Education training programme for Teaching faculties from 8th to 13th of February 2016 held at Govt. Siddha Medical College, Palayamkottai.

13/2/16

Prof. Dr. D.K.SOUNDARARAJAN MD (s)
Head of the Department
Kuzhanthai Maruthuvam

Prof. Dr. S.SOUNDARARAJAN MD (s)., BL
Principal

CONTINUING MEDICAL EDUCATION PROGRAMME

Organized by

POST GRADUATE DEPARTMENT OF KUZHANTHAI MARUTHUVAM (PAEDIATRICS)

GOVT. SIDDHA MEDICAL COLLEGE, Palayamkottai

CERTIFICATE

This is to Certify that Dr. MARIA THERESA .V .....

..... THIRD YEAR - PG ..... *has actively participated in the continuing Medical*

Education training programme held on ***22nd June 2016****. at Govt. Siddha Medical College, Palayamkottai*

This programme focused on a Seminar on ***"Metabolic Illness"***

22/6/16

Dr. K.SHYAMALA, M.D(s)
Co-ordinator

Prof.Dr. D.K.SOUNDARARAJAN, M.D(s)
Head of the Dept.

21/6/16

Prof.Dr. S.VICTORIA, M.D(s)
Principal

GOVT SIDDHA MEDICAL COLLEGE AND HOSPITAL
PALAYAMKOTTAI
PG. DEPT. OF KUZHANTHAI MARUTHUVAM

CONSENT FORM

An open clinical study to evaluate the safety and efficacy of Siddha sasthric formulation**"NAYURUVI NEI"**for the management **"KUDAL KIRUMI - MASARAI PUZHU"**

CERTIFICATE BY INVESTIGATOR

I certify that I have disclosed all the details about the study in the terms readily understood by the parent.

Date ……. **Signature……..**

place ……. **Name ……**

CONSENT OF INFORMANT

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow-up including the laboratory investigations to be performed to monitor and safeguard my Son / Daughter body functions.

I am aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

I am, exercising my free power of choice; hereby give my consent to be included as a subject in the clinical trial of "NAYURUVI NEI"for the treatment of "KUDAL KIRUMI - MASARAI PUZHU"

Informant Signature:…….

Date: **Informant Name: …….**

Place: **Patient Name:…….**

Signature of Witness **Relationship:……**

ANNEXURE – IV

GOVERNMENT SIDDHA MEDICAL COLLEGE AND HOSPITAL

BRANCH IV – KUZHANTHAI MARUTHUVAM

PALAYAMKOTTAI - 627 002.

CASE SHEET PROFORMA-"KUDAL KIRUMI-MASARAI PUZHU"

Name of the Medical unit:	Nationality:
I.P.No. :	Religion:
Bed. No. :	Date of Admission:
Name :	Date of Discharge:
Age/Sex:	Duration of treatment :
Occupation(Parents):	**Diagnosis**:
Income(Parents):	Medical Officer:
Informant:	
Address:	

Complaints and duration :

History of present illness :

History of past illness :

Antenatal History :

Birth and Neonatal History :

Dietetic and Nutritional History :

Developmental History :

Family History :

Social History :

Immunization History :

General Examination

1. Consciousness :
2. Decubitus :
3. Anemia :

4. Jaundice :
5. Cyanosis :
6. Clubbing :
7. Pedal oedema :
8. Lymphadenopathy :
9. Nourishment :
10. Skin changes :

Vital Signs

1. Pulse
   - -Rate :
   - -Rhythm :
   - -Volume :
   - -Character :
2. Blood Pressure (B.P). :
3. Respiratory Rate (R.R.) :
4. Temperature :

Anthropometry

1. Wt – Weight :
2. Ht - Height :
3. Mid arm circumference :
4. Head circumference :
5. Chest :
6. Skin fold thickness :

Siddha Systems – Clinical Examination:

Poripulangal

Mei :

Vai :

Khan :

Mookku :

Sevi :

Kanmendriyam – Kanmavidayam

Kai :

Kaal :

Vaai :

Eruvaai :

Karuvaai :

:

Nilam

Kurinchi :

Mullai :

Marutham :

Neithal :

Palai :

Paruva Kaalam

Kaar :

Koothir :

Munpani :

Pinpani :

Elavenil :

Muthuvenil :

Udal Kattugal

Saaram :

Senneer :

Oon :

Kozhuppu :

Enbu :

Moolai :

Sukkilam/Suronitham :

Envagai Thervugal

Naadi :

Sparisam :

Naa :

Niram :

Mozhi :

Vizhi :

Malam :

Moothiram :

Vatham

Piranan :

Abaanan :

Uthaanan :

Viyaanan :

Samaanan :

Naagan :

Koorman :

Kirugaran :

Devathathan :

Dhananjeyan :

Pitham

Analam :

Ranjagam :

Sathagam :

Alosagam :

Pirasagam :

Kabam

Avalambagam :

Kilethagam :

Pothagam :

Tharpagam :

Santhigam :

Neerkuri

Niram :

Manam :

Nurai :

Edai :

Enjal :

Neikuri

Malakuri

Nirami :

Nurai :

Elagal :

Erugal :

Modern Aspects

Systemic examination

Cardiovascular systems:

1. Inspection:
2. Palpation:
3. Percussion:
4. Auscultation:

Examination of other systems

Respiratory systems:

Abdomen:

Central nervous systems:

Excretory systems:

Lab Investigations

1. **Blood**

TC	:
DC	:
Hb	:
ESR	:
PCV	:
MCV	:
MCH	:
MCHC	:
Total RBC count	:
Peripheral blood smear	:

2. **Urine**

Albumin	:
Sugar	:
Deposits	:
Bile Salt	:
Bile pigments	:

3. **Motion**

Ova	:
Cyst	:
Occult blood	:

DIFFERNTIAL DIAGNOSIS :

PROGNOSIS :

MARUTHUVAMURAI :

ADVICE :

DAILY PROGRESS :

Date	Symptoms	Medicine

GOVERNMENT SIDDHA MEDICAL COLLEGE AND HOSPITAL

BRANCH IV – KUZHANTHAI MARUTHUVAM

PALAYAMKOTTAI - 627 002.

ADMISSION – DISCHARGE SHEET

Name of the medical unit : Nationality:

I.P.No : Religion:

Bed No : Informant:

Name : Date of Admission:

Age/Sex : Date of Discharge:

Occupation(parents) : No. of days treated :

Income(parents) : **Diagnosis**

S.No	**Clinical Features**	**During admission**	**During discharge**
1.	Pain Abdomen		
2.	Itching around the anus		
3.	Loss of appetite		
4.	Vomiting		
5.	Irregular Stools		
6	Loss of weight		
7.	Teeth grinding		
8	Worms in Faeces		

Place:

Date: **Signature of the Medical Officer,**

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- Siddha Maruthuvam Noi Naadal Noi Muthal Naadal - Dr. M. shamugam HPIM
- Agathiyar Vaithiya Vallathi Jeeva Rakchamirtham - K. Patchaiappa Mudaliyar.
- Udalkoorugal – Dr.R.Thiagarajan
- Yugi vaithiya chinthamani
- Siddha Maruthuvam - Dr.KuppusamyMudaliar
- Gunapadam mooligai vaguppu – Dr.MurugesaMudaliar
- Gunapadam Thathu Jeeva vaguppu – Dr.R.Thiagarajan
- Thanvandiri vaithiyam
- Siddha maruthuvangasurukkam – Dr.Uthamarayan
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